COMPARISON BETWEEN EMAIL AND TWITTER AS KNOWLEDGE PLATFORMS IN SMALL SOUTH AFRICAN BUSINESSES LOCATED IN THE WESTERN CAPE

by

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A dissertation submitted in accordance with the requirements for the degree of

MASTER OF SCIENCE

in the subject of

COMPUTING

at the

UNIVERSITY OF SOUTH AFRICA

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30 November 2018

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DECLARATION

I, Wiaan Heyns, declare that **'Comparison between Email and Twitter as knowledge sharing platforms in small South African businesses located in the Western Cape'** is my own work and that all the sources that I have used, or quoted, have been indicated and acknowledged by means of complete references.

I further declare that I have not previously submitted this work, or part of it, for examination at UNISA or at any other higher education institution.

30 November 2018

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Signature **Date**

ABSTRACT

The aim of this research is to shed more light on an aspect identified as a gap in knowledge in the literature; the use of a social networking service as knowledge sharing platform. More specifically, this research sets out to establish if the social networking service Twitter could be used as knowledge-sharing platform in small South African businesses in the Western Cape.

A mixed method research design is used. This includes gathering data through questionnaires as well as conducting semi-structured interviews for case study participants. The sample comprises 122 questionnaire participants together with 14 semi-structured interview participants across three small businesses located in the Western Cape Province.

Although it is apparent from the study conducted that small businesses are not yet willing to forego traditional platforms such as Email to use Twitter exclusively as a knowledge sharing tool, the researcher proposes a case for using Twitter, which he believes, could take the most advantage of the functions Twitter brings to a small business operation.

KEYWORDS

Knowledge management; knowledge sharing; communication; email; Twitter; microblogs; social media

ACKNOWLEDGEMENTS

I would like to thank the following persons in no specific order:

1. My supervisor, Prof. Sheryl Buckley, for her guidance and thoughtful comments;
2. The Master's and Doctoral Research Bursary Committee (MDRBC) for financial support provided through the UNISA Master's by Dissertation and Doctoral Study bursary;
3. My wife, Lianie Heyns, for keeping me focused and supporting me through this process;
4. My parents, Andre and Karin Heyns, for their support and prayers;
5. Hennie Gerber, who assisted with the statistical analysis, and my language editor, Kathleen Wood, for editing my thesis.

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ABBREVIATIONS

AU	Actual use
BI	Behavioural intention to Use
EMB	Enterprise Micro-blogging
ESM	Enterprise Social Media
HCI	Human–computer interactions
IS	Information system
PU	Perceived usefulness
PEU	Perceived ease of use
SNW	Social networking web site
SMMEs	Small, Medium and Micro Enterprises
SN	Subjective norms
SNS	Social networking service
TA	Thematic analysis
TAM	Technology acceptance model
UGT	Uses and gratifications theory

CHAPTER 1: INTRODUCTION

This chapter introduces the research focus area, presents the structure of the study as well as the background to the research problem. It also explains the research problem, and identifies the research question, sub-questions and objectives of this research study.

Microblogging platforms, such as Twitter, have achieved tremendous success in the public arena. The growth of monthly active Twitter users from 2010 to 2018 (in millions) is depicted in Figure 1.1. The researcher believes that the reduced rate of growth from 2015 indicates that the market has been saturated. Twitter continues to make improvements to the platform to entice new users to come on board (Mislove et al. 2011).

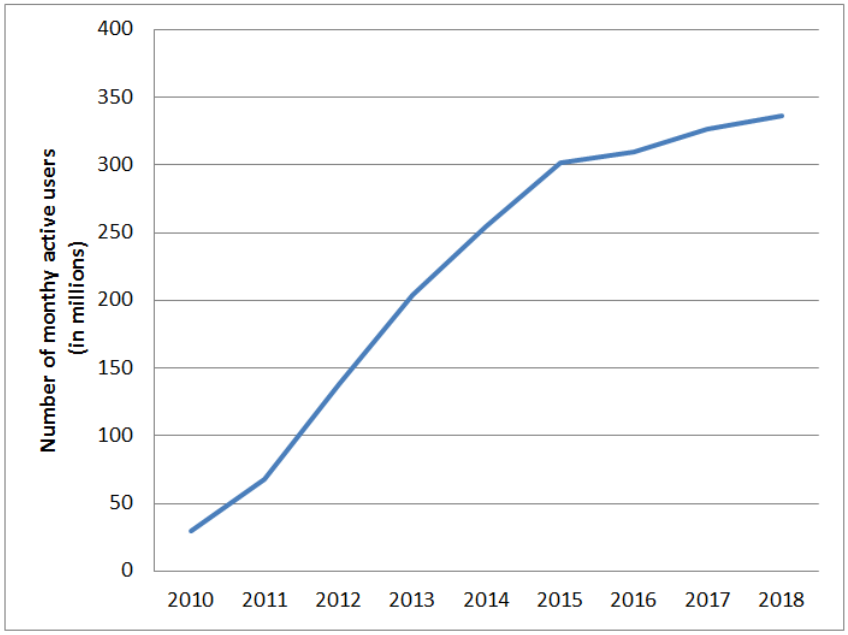

Figure 1.1: Monthly active Twitter users from 2010 to 2018 in millions

(Source: Statista 2018).

Given this success, businesses have started to show an interest in using this technology (Riemer, Scifleet & Reddig 2012). For the purposes of this study the researcher agrees with the definition as stated by Grajales et al. (2014, p.6), who defined a social networking site (SNS) as follows:

> Web-browser and smartphone accessible services that allow users to create social connections in a public or semi-public form (through the use of profiles) in order to share information updates with other site users.

This study aimed to shed more light on two aspects identified in the literature as a 'gap' in the knowledge on using a social networking service such as Twitter as a knowledge sharing platform. First, research needed to be done to assess if users will share knowledge when the platform they are using includes a business as whole rather than just a few trusted colleagues (Adamovic, Potgieter & Mearns 2012; Vuori & Okkonen 2012). Secondly at the time of their study, Zhang et al. (2010) stated that the micro-blogging concept was still a novelty for most users and therefore should be revisited at a later stage. This researcher, therefore, will attempt to determine whether or not Twitter currently could be used as knowledge sharing platform.

In terms of the structural organisation of this study, a brief overview of the contents of each chapter follows:

Chapter 1 introduces the research area, presents the background and research problem. The research question, sub-questions and purpose is also presented.

Chapter 2 reviews the literature to create a foundation for this study.

Chapter 3 elaborates on the researcher's chosen approaches to address the research question and sub-questions.

Chapter 4 presents the demographic characteristics of the sample first then the overall findings are presented. This is firstly done for the quantitative data followed by the qualitative data.

Chapter 5 interprets and discusses the findings presented in the previous chapter. The responses to the research question and sub-questions are stated. The researcher also presents a summary and overview of the research study. The researcher presents his recommendations and lastly the limitations of the research study are presented and the possible directions for future work are discussed.

This structural chapter outline is depicted in Figure 1.2.

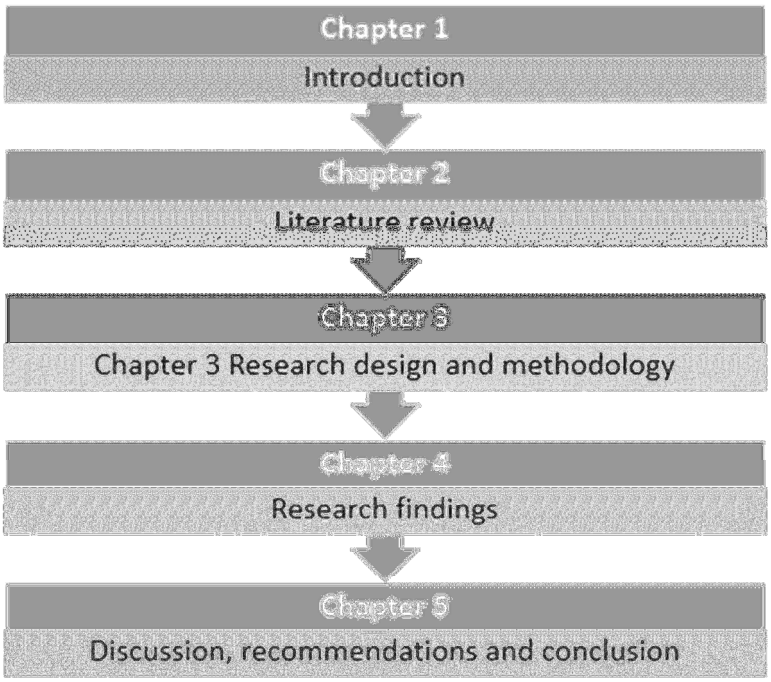

Figure 1.2. Structure of this research study

1.1 Background

This research study is rooted in two main concepts; firstly, the facets of small businesses in South Africa in regard to knowledge sharing, and secondly, the use of social media platforms such as Twitter. The purpose of this study is to investigate if knowledge sharing could be done by using Twitter in the small businesses of the Western Cape Province.

In order to understand the term 'knowledge sharing', a definition of knowledge itself must first be established. The term 'knowledge' can be difficult to define as the literature gives various descriptions such as:

(i) knowledge as a resource (Papadopoulos, Stamati & Nopparuch 2012);
(ii) knowledge as something that can only be generated through experience (Gronau et al. 2016); and,
(iii) knowledge as a social construct (Scotland 2012).

For the purpose of this research study the researcher defines knowledge as 'contextualised information' which is enhanced through an individual's personal expertise and experiences (Sita Nirmala Kumaraswamy & Chitale 2012, p. 309).

When considering sharing this knowledge within a business, the sharing process as a whole will not only help individuals connect but also more deeply integrate the different business units. This allows a knowledge pool to be created that spans multiple business units and allows everyone access to that information. The effect this has on the ability and improvement of innovation in the business was documented by Chang and Hughes (2012). The researcher also agrees with the notion made by Donate and Guadamillas (2010) which states that as knowledge transfer platforms are prioritised within businesses, the actual effect will result in a higher number of people sharing knowledge within the business.

The GEM South Africa Report (2014) characterised small businesses in South Africa with two attributes which the researcher considers an important aspect of this research study; the lack of knowledge sharing infrastructure, and keeping operating costs as low as possible. The ease of access to communication and knowledge-sharing infrastructure has been identified as a problem for small businesses in South Africa (GEM South Africa Report 2014). Therefore, the fact that Twitter is free to use is advantageous to these small businesses as they can leverage the service without an added cost to the business.

This study's focus on the use of Twitter as potential knowledge sharing platform is due to the fact that Twitter is a microblogging site designed to allow users to send updates or 'Tweets' to other users on the platform. These Tweets can contain multiple forms of media such as text, pictures and videos. This means Twitter gives users a constantly-updated stream of information from various sources.

However, although the platform shows promise, there is a stigma attached to social media which might deter users from using it to its fullest extent. This is a possible resistance to use a platform like Twitter because it may seem too unprofessional when compared to a traditional platform such as Email (Leonardi & Treem 2012). To determine if this was an unsurmountable problem the researcher constructed the research problem as described in the section below.

1.2 The Research Problem

Information systems such as Email and Twitter, when used for knowledge sharing, allow employees to collaboration easier and transform their own knowledge into organisational knowledge in a timely manner (Gaál, Szabó, Obermayer-Kovács & Csepregi 2015; Soto-Acosta, Popa & Palacios-Marqués 2017). As established above, previous studies did not include research on a complete business but rather focused on units or departments within a business (Adamovic, Potgieter & Mearns 2012; Vuori & Okkonen 2012). The focus on small businesses is also limited when compared to the research done on large businesses (Soto-Acosta, Popa & Palacios-Marqués 2017). Even though social media platforms can add practical value for businesses when it comes to knowledge sharing (He, Wang, Chen & Zha 2017) businesses must be guided to see this value proposition (Gaál, Szabó, Obermayer-Kovács & Csepregi 2015). This gap in the knowledge and the potential practical impact of this research for small businesses led the researcher to explore the implementation of Twitter through the whole business as a complete unit. In this study, therefore, the researcher set out to find out if Twitter could be used as knowledge sharing platform in preference to the a traditional platform such as Email in small South African businesses in the Western Cape. To best address this research problem the researcher asked seven research questions. These questions are presented in the section below.

1.3 Motivation for the Research Study

The researcher identified a gap in the knowledge available at this time in regard to using Twitter as knowledge-sharing platform. This gap was defined by the researcher through the call for further studies from Adamovic, Potgieter and Mearns (2012) and Vuori and Okkonen (2012) who indicated that research needs to be done to find out if users will share knowledge when the business is considered as a whole unit rather than in just a single department or small group of users. Furthermore, Zhang et al. (2010) indicated that at the time of their study the micro-blogging concept was still a novelty and that the idea of using a micro-blogging service, such as Twitter, for information sharing needs to be revisited at a later time when the novelty can be considered to have worn off.

To further illustrate the awareness that currently exists in this research area the Nexus Search's Database System was used to show what has been done to date. The search was performed on 2 September 2018. Table 1.1 shows the results in terms of number of records

for completed and current research from 2004 to 2018. The key words (knowledge, sharing, twitter) yielded no results; however, the limited amount of records found for these keywords indicates that the field has not been oversaturated. This researcher believes that this research endeavour also falls into this search category and as such fills a gap in the knowledge available.

Table 1.31. Completed and current research from 2004 to 2018

Keywords used in search	Nexus Database System: Number of records
microblog	0
blog	2
twitter	4
knowledge **AND** sharing	27
knowledge **AND** sharing **AND** social	2
knowledge **AND** sharing **AND** twitter	0

1.4 The Research Questions and Objectives

The main question for this research to determine the actual use of Twitter may be defined as follows:

RQ1: How are businesses using Twitter as knowledge sharing tool when compared to Email usage?

To this end two sub-questions (SQ) are asked for each platform, namely, Twitter and Email:

SQ1: What are the advantages of using the platform as knowledge sharing platform?
SQ2: What are the disadvantages of using the platform as knowledge sharing platform?

The aim of this study is also to accomplish the following research objectives (RO):

RO1: to discover the perceived usefulness (PU) and perceived ease of use (PEU) of Twitter and Email when it comes to knowledge sharing within the business;

RO2: to compare the perceived usefulness (PU) and perceived ease of use (PEU) of Twitter and Email when it comes to knowledge sharing within the business;

RO3: to explain how the subjective norms (SN) influence the behavioural intention (BI) to use Email;

RO4: to explain how the subjective norms (SN) influence the actual use (AU) of Email;

RO5: to uncover how subjective norms (SN) generated from the social aspect of Twitter influence the behavioural intention (BI) to use Twitter;

RO6: to uncover how subjective norms (SN) generated from the social aspect of Twitter influence the actual use (AU) of Twitter.

1.4 Research Paradigm

The researcher believes that the research questions should be the driving force of the research strategy (Wahyuni 2012). Given this belief, a pragmatic research philosophy was chosen to guide this research study.

A pragmatic approach to the research allowed for the investigation of answers to research questions. Seeing the world through a pragmatic lens, as a 'matter-of-fact approach' allowed this researcher to focus on the task at hand. The pragmatic research paradigm also aligns with the value system of the researcher (Creswell 2003; Creswell & Clark 2011). In addition, a mixed method research approach combines well with the pragmatic research approach (Armitage & Campus 2007).

1.5 Research Approach

The researcher chose to use a mixed method research approach; a combination of a deductive or 'top down' and inductive or 'bottom up' approach. The deductive approach begins with a general theory and collects observations to prove or disprove an original theory. In this way, the quantitative data collected is used to formulate a framework that Twitter can be used successfully to guide knowledge sharing in small businesses.

The inductive approach, on the other hand, starts with a specific observation from which patterns emerge which can be used as basis for a hypothesis. This allows for the analysis of the results of the main question: whether individuals use Twitter as knowledge sharing platform in small businesses (Gray 2013).

1.6 Research Design

This researcher employs a mixed method research design for this study. The integration of quantitative and qualitative data adds extra depth to the research needed to answer the research questions.

1.7 Data Collection Methods

The data collection methods for the quantitative and qualitative data are presented in the sections below.

Quantitative data collection. After ethical clearance was received, questionnaires were distributed and collected from July to September 2017. The data collected was then coded and saved as a Microsoft Excel spreadsheet. The physical copies of the questionnaires are secured in the researcher's home and the digital copy of the data is kept in a Dropbox account to which only the researcher has access.

Qualitative data collection. In the process of facilitating the qualitative data collection process through interviews, the researcher followed four phases: namely, invitation, scheduling the interviews, interview sessions and safe guarding data.

1.8 Data Analysis Methods

As explained above, the research strategy provided a mixture of quantitative and qualitative data. The data analysis techniques employed for each type of data collected are:

Quantitative data analysis. The quantitative data gathered through the questionnaire was analysed using the statistical facilities provided by UNISA whereby the statistician analysed the coded questionnaire data. This analysis provided descriptive statistics of the biographical variables and other descriptive statistics of the Likert Scale questions. Inferential statistics were also used to interpret the data from a quantitative perspective.

***Qualitative data analysis*.** The qualitative data generated in the form of interview transcripts were analysed to execute the thematic analysis procedure as described by Braun and Clarke (2006). The process consists of six steps, namely:

(i) familiarisation with data
(ii) generating initial codes
(iii)searching for themes
(iv)reviewing themes
(v) defining and naming themes, and lastly
(vi)presentation of the data.

1.9 The Research Purpose of the Study

The purpose of this research was to shed further light on the role microblogs can play in knowledge sharing within businesses. The study focused on the use of Twitter in small South African businesses in the Western Cape to determine if Twitter can be an applied for a knowledge-sharing platform.

Although some research has been done, the literature review in Chapter 2 showed that new relationships should be indentified now that the novelty aspect in regard to the use of microblogs has worn off. This study, therefore, focused on small businesses in the Western Cape of South Africa.

A pragmatic paradigm was employed by incorporating aspects from the Technology Acceptance Model (TAM) and Uses and Gratifications Theory (UGT) to create the theoretical foundation for this study. The data for this study was collected using a mixed methods approach: quantitative data was collected using questionnaires as a data-collecting instrument (122 fully completed questionnaires were collected and analysed); and qualitative data was collected through semi-structured interviews (15 participants from three businesses were interviewed).

Data analysis was then done through statistical analyses of the questionnaire data in combination with manual thematic analysis on the interview transcripts. These results were then combined using triangulation, which not only delivered richer information but allowed the researcher to improve validity of the answers to the research questions.

This study is intended to make a contribution to the body of knowledge in respect of using social media as knowledge-sharing platforms by an investigation of the extent in which Twitter could be used as knowledge-sharing platform within small businesses in the Western Cape.

1.10 Chapter Conclusion

In this chapter the researcher introduces the work done in this research study. Firstly, the background in regard to the main attributes if this study are introduced. This is followed by the introduction of the research problem and the research questions which were created to address this research problem. Lastly, the purpose of this research study is presented. In the next chapter the literature is reviewed and main concepts of this study are discussed by examining the literature to date on these concepts.

CHAPTER 2: REVIEW OF THE LITERATURE

In Chapter 1 the research topic was introduced and a brief outline of the research to be conducted was given. Chapter 2 will cover the literature review based on the central concepts of this study. These concepts were used to focus and refine the literature review which was structured around eight main issues as follows:

(i) knowledge sharing
(ii) organisational culture
(iii) traditional knowledge sharing platforms
(iv) alternative knowledge sharing platforms
(v) micro-blogs
(vi) mitigating security concerns of social media in the workplace
(vii) the constructs of the technology acceptance model (TAM)
(viii) the uses and gratifications theory (UGT), as well as
(ix) a summary and synthesis of the concepts reviewed by the researcher.

Firstly, the concept of knowledge sharing, specifically through the use of Email and Twitter, was explained. Next, the researcher introduced the concept of organisational culture and its potential impact on the use of knowledge-sharing platforms. Then the use of micro-blogs for the work environment was explored. Thereafter, the researcher stated the possible security issues in using social media platforms to ensure that the reader is aware of the barriers to implementing social media platforms in the work space. The Technology Acceptance Model (TAM) was explained through the view of its constructs. Perceived Usefulness (PU) and Perceived Ease of Use (PEU) were introduced and linked to other studies. The Extended TAM was also introduced with a focus on the construct of Subjective Norms (SN). For the purpose of this study the researcher compared the PU and PEU constructs of Email to that of Twitter to determine if Twitter will be accepted as a knowledge sharing platform in the workplace. The SN construct was used to map the behavioural intention of Twitter as more people may be inclined to use it if their supervisors use it (Choi & Chung 2013). The Uses and Gratifications Theory (UGT) was then presented and explained by focusing on the assumptions made by the UGT as identified by the University of Twente (2014). The results from this implementation of the UGT were then used to identify which gratifications were satisfied by Twitter and which were satisfied by Email. Using a combination of TAM and UGT this researcher was able to answer the main research question and provide insight to

show how Twitter and Email compare when used as knowledge-sharing platforms. Lastly, this researcher provided the reader with a summary and synthesis of the concepts described above. The sections below review these eight concepts and, in doing so, lay the foundation on which the rest of this study was constructed.

2.1 Citation Management and Reference Method

The references were managed electronically with the ProQuest RefWorks Online bibliographic management program. To ensure cohesion and consistency the Harvard 6 method of referencing was used throughout this study.

2.2 Literature Review Approach

The process of knowledge sharing with a specific focus on social media platforms as facilitator in the knowledge sharing process was described throughout this literature review. The approach used for this study is centred on concept. This means possible key areas of research were identified by focusing on where these concepts overlap. In the sections below, these key concepts are presented and analysed by the researcher.

2.3 Knowledge Sharing

To fully understand the concept of knowledge sharing it must first be understood what knowledge is. In the literature, several authors take various approaches to define knowledge. Papadopoulos, Stamati and Nopparuch (2012) characterise knowledge as a resource. This resource can be used by an individual, organisation or any other knowledge receiver to effect an action. Others such as Gronau et al. (2016) describe knowledge as being bound to an individual and something that can only be generated through experience. Lastly, Scotland (2012), proposes that knowledge is a social construct and can also be influenced through the power structures evident within a society.

Even though it is difficult to pin down a standard definition of knowledge, the literature shows that knowledge will influence behaviour (Ramayah, Yeap, Ignatius 2013). Therefore, although intangible, knowledge is present in the human physiology because of the learning experiences that individuals have gone through in their lives (Ramayah, Yeap, Ignatius 2013). Similarly, Sita Nirmala Kumaraswamy and Chitale (2012, p. 309) define knowledge

as ‘highly contextualized information enriched with individual interpretation and expertise’. They further suggested such knowledge can be linked to a specific person as knowledge is gained through ‘experience, reasoning, intuition and learning’.

For the purpose of this study, the definition of knowledge as proposed by Sita Nirmala Kumaraswamy and Chitale (2012) will be followed. However, to further enhance the understanding of the concept of knowledge, it is also believed that knowledge is considered to be ‘unarticulated and tied to the senses, movement skills, physical experiences, intuition, or implicit rules of thumb’ as stated by Nonaka and von Krogh (2009, p. 635).

This last mentioned definition, and the way knowledge is created as previously indicated above, not only integrates well with this study’s research paradigm of pragmatism but also confirms the fact that knowledge is confined in the mind of the knowledge holder. This means some form of platform is needed to allow the knowledge to move from the mind of the ‘knower’ to others.

However, this researcher believes that knowledge cannot be defined entirely through the discussion above. To this end, the type of knowledge was also explored. According to Gronau et al (2016), knowledge type may be one of two categories; namely, explicit and tacit knowledge. To differentiate between them Panahi, Watson and Partridge (2012) recommend focusing on the way in which each type of knowledge is processed and shared. This researcher shares this view and employed this approach.

Explicit knowledge can be defined as knowledge that can be written down or documented (Ryan & O’Connor 2013). This includes all information stored in books and databases and more. This means explicit knowledge can be expressed through traditional learning methods (Ryan & O’Connor 2013). Gangi, Wasko and Tang (2012) describe the explicit knowledge-sharing process as easier because it can be distributed with minimal explanation and effort from the knowledge source. Furthermore, Wang and Wang (2012) indicate that managerial information technology tools should promote the willingness of individuals to share explicit knowledge.

By contrast, however, Ryan and O'Connor (2013) state that tacit knowledge is not easy to share, because it is not simple to write or verbalise what the user wants to share. Furthermore, other writers assert that tacit knowledge is characterised by the fact that it is difficult to communicate with others (Gangi, Wasko & Tang 2012) as it includes personal knowledge, acquired through spending time and working with experts, which is locked in an individual's head. The significance of tacit knowledge sharing, however, has been shown to not only provide a competitive advantage, but also improve productivity within the organisation (Panahi, Watson & Partridge 2012). Unfortunately, this advantage does have some stumbling blocks. One such difficulty is that since the main method for tacit knowledge sharing is face-to-face communication (Wang & Wang 2012) the keys to successful tacit knowledge exchange are the willingness and capacity of individuals to share their knowledge (Wang & Wang 2012). Therefore, these individuals may require greater motivation and benefits to entice them to share their knowledge (Gangi, Wasko & Tang 2012).

Now that knowledge has been defined for this study, the process of sharing this knowledge can be explored (Lam & Lambermont-Ford 2010). If management of the sharing process is managed effectively, organisations can gain a competitive advantage (Hau et al. 2013), but this can only happen if individuals within an organisation share their valuable knowledge with the relevant parties in the organisation (Meihami & Meihami 2014). Husted et al. (2012) state that the act of sharing knowledge should be completely voluntary, thus the individuals within the organisation must be willing to share their knowledge. Therefore, it is in the organisation's best interests to manage the knowledge sharing process by encouraging individuals to share rather than by trying to manage or use policies to force knowledge sharing.

The advantage is that a knowledge-sharing process between individuals allows them to increase their productivity as they learn from each other. In turn, this will improve the overall productivity of the organisation (Sharma, Singh & Neha 2012). Knowledge sharing can also occur between groups of individuals in different departments of the organisation (Hung et al. 2011). The knowledge sharing process has been categorised by Szulanski (1996) into four stages. These are described below:

Initiation. As the first stage, encapsulates all the aspects before starting the knowledge sharing process; which is either a need or some knowledge required by the organisation.

Should a need exist where the knowledge to fulfil it is not apparent, a search must be launched to find the knowledge required.

Implementation. The second stage establishes a social link between the knowledge source and recipient which will allow the resources to flow between them and to create a communication channel should there be any problems during this process. Once the recipient has possession of the transferred knowledge and begins using it, the implementation stage can be considered complete and the recipient moves to the ramp-up phase.

The ramp-up stage. The third phase is aimed at resolving problems which inhibit the effective use of the transferred knowledge by the recipient. Once problems have been resolved and the receiver begins using the transferred knowledge it might seem ineffective in the beginning. However, the effect on performance will only ramp-up to a satisfactory level over time, and only once the recipient uses the transferred knowledge effectively.

Integration. Lastly, this stage can begin once the recipient achieves a satisfactory level of efficiency using transferred knowledge. As the use of the transferred knowledge becomes part of the recipient's daily activities a social pattern may be formed. To ensure that this process can be accomplished the environment in the organisation must allow for the process.

In addition, five critical success factors have been identified for sharing knowledge to foster an environment conducive to sharing knowledge within an organisation (Ismail Al-Alawi, Yousif Al-Marzooqi and Fraidoon Mohammed 2007). These critical factors are (i) interpersonal trust, (ii) communication between employees, (iii) information systems, (iv) reward systems and (v) organisational structure. The five factors are described further below.

Trust. The first critical factor, is identified as the dimension that has garnered the greatest research interest and attention (Wang & Noe 2010). Interpersonal trust can be conceptualised as what the 'trust' group, or individual places on the promise made by another group or individual. Casimir, Lee and Loon (2012) indicate that interpersonal trust can be considered more relevant to sharing knowledge because this trust can negate the feeling of vulnerability between the individuals. Wang and Wang (2012) also state that the act of sharing may be hindered because this knowledge is integrated via physical action. Again, the trust factor could overcome any such interpersonal barrier and allow the knowledge sharing process to move forward.

Human interaction. Secondly, employees communicate verbally and through body language. Ferreira and du Plessis (2009) state that human interaction encourages not only social networking, but also knowledge transfer. This means the scale of individuals willing to collaborate must drastically increase and the emphasis should be placed on creating positive social connections within the company to encourage knowledge sharing behaviour.

Information systems. Thirdly, information systems throughout the organisation should be used to give individuals the platform to share knowledge. For this study, an information system (IS) is defined as an organised set of technologies, processes and people which are used to support the organisation's goals (Watson, Boudreau & Chen 2010). The advantage of an IS is that they give users the ability not only to share knowledge with a co-worker in the same building, but also share knowledge with someone in another country with the same amount of effort (Gangi, Wasko & Tang 2012).

Reward systems. Fourthly, reward systems must be considered. Individuals within an organisation are more often than not willing to share their valuable knowledge without some form of compensation or motivation, but a reward for the act of sharing may further entice individuals to share their knowledge. However, reward systems ought to be be designed with collaboration and team work in mind to further facilitate multiple sharing between individuals. This means reward systems that reward groups of individuals together instead of basing the reward on an individual's performance will show better results.

Traditional organisation structure. Lastly, the conventional small businesses are classified as being non-bureaucratic in structure (Hashemi 2012) and are usually dependent on one person to make all strategic decisions. The main disadvantage of this structure, in terms of knowledge sharing, is that it slows down the flow of information within the organisation because everything must go through one decision-maker who has the final say (Ismail Al-Alawi, Yousif Al-Marzooqi & Fraidoon Mohammed 2007).

The above five critical success factors to create an organisational culture where knowledge sharing can thrive (Ismail Al-Alawi, Yousif Al-Marzooqi & Fraidoon Mohammed 2007) may also be seen in section 2.5 below. However, Chen, Chang and Tseng (2012) note that despite having such a sharing culture in place, some individuals in an organisation may be reluctant to share knowledge which is perceived as advantageous to themselves. To help mediate this

reluctance Vuori and Okkonen (2012) suggest individuals share what they know in as a three-fold challenge process, whereby (i) it is understood that knowledge is important and may add value to the business even if some individuals do not think so; (ii) the knowledge sharing platforms and process must be easily accessible; and (iii) everyone must be motivated to share their knowledge with others. Therefore, a closer look at the concept of motivation is required.

Motivation for knowledge sharing can be classified into two distinct groups; external to an individual and intrinsic or inherent to an individual (Hung et al. 2011).

External motivation is attributed to incentives such as financial rewards, whereas intrinsic motivation is linked to incentives which are valuable personally, such as task enjoyment (Cerasoli, Nicklin & Ford 2014). Further, these external incentives could avoid negative consequences from actions and instead focus on positive consequences; for example, while external motivation can be seen as more obvious (for example, an employee's raise in salary) this desire could be influenced by intrinsic factors such as self-recognition for the work being done (Agrifoglio, Black & Metallo 2010).

Intrinsic motivation is inherent to an individual. There are two other intrinsic factors that act as powerful motivators for sharing knowledge: the enjoyment an individual gets from helping others; and the satisfaction from having some knowledge self-efficacy (Hung et al.2011). This means an individual may perform an action that seems to have no external worth but is a realisation of an internal need (such as enjoyment) of that individual.

Nonetheless, classifying motivational factors as either and exclusively intrinsic or external is difficult because these factors tend to be very subjective, and any attempt at classification is dependent on the interpreter (Vuori & Okkonen 2012) and, in addition some of these factors may overlap. Notwithstanding, organisations ought to ensure that some of these factors are in place to entice individuals to share what they know. The key motivational factors, identified by Vuori and Okkonen (2012) and substantiated by multiple authors in the literature, are summarised in Table 2.1.

Table 2.1. Key motivational factors to enhance knowledge sharing

Key motivational factors to enhance knowledge sharing as identified by Vuori & Okkonen (2012)	
Motivational factor	**Author(s) substantiating this factor**
Receiving rewards or other incentives	Chen and Hung (2010); Hung, Durcikova, Lai and Lin (2011)
The feeling of empowerment	Zhang and Bartol (2010)
Getting knowledge in return	Chang and Chuang (2011)
Being recognised as an expert in your field	Hung et al. (2011); Chang and Chuang (2011)
Trusting the act of sharing knowledge is beneficial	Chen and Hung (2010)

The concept of knowledge sharing cannot be considered in isolation. The process and challenges will change depending on the environment that is being facilitated. This study will discuss three distinct perspectives or environments, namely: international, South African and organisational in the sections below.

2.3.1 Knowledge sharing: an international perspective

The term 'international organisation' needs to be defined to fully grasp this perspective. According to Archer (2014, p. 33) an international organisation is defined as:

> [A] formal, continuous structure established by agreement between members, whether governmental representatives or not, from at least two sovereign states with the aim of pursuing the common interest of the membership, covers a wide range of institutions even if profit-making associations are excluded.

Furthermore, Parker and Adler-Nissen (2012) define a sovereign state as an entity with fixed borders and population controlled by its own government. The integration between sovereign states, each with their own laws and regulations, makes it difficult to create a one-size-fits-all solution or policy to share knowledge in international and multinational organisations (Wang & Noe 2010). However, this difficulty of social media usage for business purposes has been considered in the literature by Kaplan and Haenlein (2009), Culnan, McHugh and Zubillaga (2010), and Papadopoulos, Stamati and Nopparuch (2012), who have shown that social media usage has gained at least some traction in the international business environment. On an international scale companies that have continuously embraced social media are now getting a positive response in terms of business benefits (Adamovic, Potgieter & Mearns 2012).

Edosomwan et al. (2011) have identified various business benefits gained through effective use of social media that include, but are not limited to:

(i) the creation of an open line of communication between management and employees;
(ii) an improvement in team work, which, in turn, helps employees share knowledge; enabling current and potential customers to use a collaborative communication platform.

The discussion above gives some advantages for the use of social media within international organisations. The international environment which has facilitated the knowledge-sharing process provides a good foundation for the discussion of a specific perspective of this study: that these benefits will also be present in South African organisations to match those identified within international organisations (Herrington, Kew & Kew 2014). The South Africa organisational perspective is explained further in the section below.

2.3.2 Knowledge sharing: a South African perspective

As this study only involves small South African businesses, this business category needs to be defined. According to the National Small Business Act 102 of 1996 (South Africa, 1996) the South African government categorises small organisations into four distinct categories according to the number of employees and turnover levels. The classifications are; micro, very small, small and medium enterprises respectively.

Mohsam and van Brakel (2011) studied the knowledge sharing practices of small- to medium- sized South African enterprises, specifically those located in the Western Cape Province. In the knowledge sharing practices of the organisations they found the relationship and trust between employees and management was crucial. Even without a formal policy or platform in place in the organisation, knowledge was still shared thus demonstrating a willingness within organisations to share knowledge. That said, the sharing platform is still an important aspect to investigate as a medium through which knowledge is shared.

The literature revealed four potential problems in knowledge sharing in a specifically South African context as follows. Firstly, in most departments of the South African government the computing infrastructure is simply not there. Given these restrictions, any knowledge sharing platforms ought to be designed in a way that it would still perform in an optimal way

(Mkhize 2015) This sentiment was echoed by Herrington, Kew and Kew (2014) who found poor infrastructure to be one of the main challenges facing small, medium and micro enterprises (SMMEs) in South Africa. This suggests that a proprietary system will not be the best option to implement and that an alternative lightweight computing infrastructure must be found.

Secondly, since the changeover from the apartheid government to democracy the knowledge management and sharing practices in South Africa have been uniquely challenged due to the shifts in legislation and academia within the country. Kruger and Johnson (2009) identified the affirmative action policy as one of the factors to have had a direct impact on the maturity of knowledge management practice in South Africa. This policy, while having the potential to uplift one group of people to balance out the past, could also influence the job security of all other groups within South Africa. This, in turn, could lead to a lack of motivation to share knowledge (Dube & Ngulube 2012; Finestone & Snyman 2005).

Thirdly, language problems in communication and knowledge sharing are specifically prevalent in South Africa as there are 11 official languages. This is another barrier to overcome for potential knowledge sharing processes (Dube & Ngulube 2012) as people are hesitant to share knowledge for fear of losing their point of view in translation, or because they are not able to communicate their message effortlessly.

Lastly, communication styles also differ between cultures. Kruger and Johnson (2009) state that most White South Africans prefer an explicit communication style, such as contracts, as an indication of trust. Black African cultures, however, are more implicit in their manner of communication, thus in these cultures oral communication is generally preferred.

Notwithstanding the mitigation of all these potential problems, the knowledge sharing policies and practices of the organisation itself must also be aligned to ensure that knowledge sharing can take place. The organisational perspective of small businesses on knowledge sharing is further described in detail in the section to follow.

2.3.3 Knowledge sharing: an organisational perspective

Intra-organisational knowledge sharing is the process whereby individuals within the same organisation share knowledge with one another (Hsu & Chang 2014). When individuals of an organisation are willing and able to distribute their knowledge in the organisation the benefits in innovation and in the rise of competitive advantage will follow (Urbancová 2013). Actively sharing knowledge within the entire organisation is considered critical for learning, solving problems and creating a bed of resources and skills on which the organisation can build a competitive capability and enhance performance (Wang & Wang 2012).

Trust has been found to be a lubricant to sharing knowledge in organisations, while uncertainty is one of the main problems (Hsu & Chang 2014). For instance, while the goal of knowledge sharing can be achieved through trust via social interaction and a common vision, uncertainty may arise through a concern about reciprocity and the loss of power that the knowledge brings.

Yaacob et al. (2011) also identified other potential problems in knowledge sharing within organisations. When issues of culture are encountered, these may be overcome by a focus on the users of the tools and platforms that enable knowledge sharing. However, the following three negative issues were also identified by Yaacob et al. (2011): the leveraging of personal credit, blame for failure of a shared idea, and perceived lack of original ideas.

- Firstly, an employee may not want to use information as leverage for personal promotion or other forms of compensation as the information gives an employee value within the organisation. Openly sharing what they know may devalue this leverage and there is also the chance that a co-worker will take the credit for their idea or initiative.
- Secondly, should a person's initiative be acted upon and something goes wrong in the corporate process, the management may blame them for the bad idea;
- Lastly, if a person facilitates the exchange of knowledge and attempts to get the conversation going, it could appear, somewhat mistakenly, that they do not have any ideas of their own.

Obviously, the research shows that a knowledge sharing process within an organisation has many potential hurdles to overcome. It is important that these negative components of the

knowledge sharing process are understood. Szulanski (1996) presents further challenges in the following four components:

(i) **the knowledge transferred** (verified or ambiguous);
(ii) **the source** (the individual that is in possession of the knowledge);
(iii) **the recipient** (the individual that will potentially be receiving the knowledge); and
(iv) **the context** in which the transfer takes place (such as an organisation).

These negative challenges as identified by Szulanski (1996) are further defined as follows:

- Firstly, two challenges to the knowledge transferred are casual ambiguity and the question of verification or proof. When any new knowledge is implemented and not fully understood a causal ambiguity could be present. Casual ambiguity is described as the uncertainty regarding the reasons for success or the failure of the implementation of new knowledge. This dilutes the value of the new knowledge and will thus make the sharing process more difficult for potential transactions. The concept of verification describes the reliability of the knowledge, and whether potential recipients are motivated to engage in the knowledge sharing process with a proven track record of the knowledge's usefulness.
- Secondly, the knowledgeable source may not be motivated to share their knowledge because it gives this person a position of superiority. Also the knowledgeable source may fear that they will not be adequately rewarded for sharing their valued knowledge or they may be not willing to offer up their time to facilitate the sharing process.
- Thirdly, the receiver may not see the knowledge source as reliable. This could arise in a case when the source is not an expert in the knowledge. In addition, the receiver may either lack motivation, or have little capacity to absorb the information. Also, recipients may be afraid of the implementation of the new knowledge and lack the motivation to go through with the process or may lack the capacity to integrate the new knowledge successfully due to the fact that they cannot value the knowledge or do not have a pre-existing base of knowledge. In addition, the receiver may not be able to retain the knowledge despite a good effort from the knowledge source. If the new knowledge cannot be retained it cannot be integrated and used. This may then also frustrate the source and lead to an abandonment of the knowledge sharing process.

- Lastly, sharing in an organisation may be difficult because the sharing process is dependent on the current organisational environment. According to Szulanski (1996, p. 32) the knowledge transfer process should not be formally managed and enforced in a 'behavior-framing' way as this may limit the number and result of knowledge sharing attempts within the organisation. Instead, the knowledge sharing process should be an on-going endeavour, with an open communication line between the two participants to help the process. Should the relationship between the two participants be distant, the knowledge sharing process may suffer for it.

Overall, to ensure the prevalence of knowledge sharing platforms in an organisation that organisation's culture must allow for such an integration of a new system or platform. The section below explains organisational culture further and why it is important for ensuring knowledge sharing within an organisation.

2.4 Organisational Culture

Ismail Al-Alawi, Yousif Al-Marzooqi and Fraidoon Mohammed (2007) state that an organisational culture must be created which allows knowledge sharing to thrive. They define organisational culture as the traditions learned over time to tackle problems within its own structures as well as with the outside world. This culture will change and adapt in an organisation as new individuals enter and integrate new ways of solving problems. In addition, not only is organisational culture unique, since it is shaped over time by the outward goals and the managerial practices, it is also informed through less obvious sources such as unspoken rules or perceptions of the individuals within the organisation (Borges 2013). What is certain, however, is that an organisation's culture needs to play a role in the knowledge sharing ability within the organisation.

Vuori and Ismail (2012) found that organisational culture is the main driver for the way employees' feel about knowledge sharing as this may predetermine what type of information is to be shared and what information is considered too sensitive to share with others (Zheng, Yang & McLean 2009). Thus to create an environment where knowledge sharing can be done via social media platforms the organisational mindset needs to be in line with knowledge sharing practices in general. According to Borges (2013) an organisational culture is formed by the individuals within the organisation as the relationship between the individuals affects

the culture. Therefore, Borges (2013) indicated that social relationships between employees of an organisation need to be understood as individuals are influenced by others and such relationships can have a profound effect, either positive or negative, on the knowledge sharing process.

Most small South African businesses are categorised in the service-producing sector (BER Commissioned Research 2016) rather than as producers of tangible products. According to Wiewiora et al. (2014) when it comes to knowledge sharing, small businesses are also likely to favour informal communication avenues as well as face-to-face discussions. Consequently, this study focuses on the social environment created by Twitter that allows for these informal discussions to take place. The section below describes the current knowledge sharing platform landscape in small South African businesses.

2.5 Traditional Knowledge Sharing Platforms

The process of knowledge sharing has been facilitated through various platforms in the past. In the literature, a specific focus is placed on using Email as knowledge sharing platform because this has proved to be an established practice in small businesses (Hwang 2012) and this researcher believes it is an ideal technology to compare with Twitter. Previous authors such as Church and de Oliveira (2013), have used a comparative approach to measure the potential of a new technology or platform and they made valuable insights when investigating the performance of a traditional platform like SMS against the new technology of WhatsApp. In another case, Lumezanu and Feamster (2012) compared the content sharing platforms, Email and Twitter, to assess the impact of spam on these platforms (spam is defined as any content or message considered 'uninformative' by the receiver (Kantchelian et al. 2012, p.1)). These researchers compared spam Emails as well as spam Tweets sent during the same time period. Their approach was found to help assess and potentially improve not only one platform's spam filter but both platforms at the same time by using the information from each platform.

This study followed this approach and compared these two platforms to assess if Twitter can be a worthy alternative to Email for knowledge sharing and communication. At the time of writing, email has already been integrated into many business operations and processes as an

established critical platform for communication and knowledge sharing processes (Jarrahi & Sawyer 2015). Not only are emails extremely helpful for sharing documents with other colleagues but they are used for daily communication, whereas social media is not (Ngai, Tao & Moon 2015). Therefore, since knowledge sharing activities have been already closely linked to the electronic sharing of documents they have become an easy-to-use tool in place to facilitate and encourage E-sharing activities (Whiddett, Tretiakov & Hunter 2012).

Email also provides a way to reach many more people with basically the same effort it would take to reach one person. This reduced effort further encourages sharing activities because individuals are more likely to share knowledge on a natural impulse if they think it can help others (Hwang 2012). Computer-aided communication platforms, such as email, allow people to reach others anywhere, at any time with just one click. These computer aided communication platforms also provide real-time feedback which, in turn, helps motivate people in the organisation to share knowledge.

If sharing cultures are already motivated in an organisation, they can be further enhanced if the organisation converts tacit knowledge to explicit knowledge to allow for a greater ability to share and distribute the knowledge. Wedgeworth (2008) has proposed that email can fulfil this role as a tacit knowledge convertor and knowledge repository due to its conversational and deliberative nature. Another advantage of email is that it is considered to be the base camp for daily users; users start the workday by catching up on their email postings and also use this time to plan their day. In this way Email has become an integrated part of daily workflow and process. Two further main issues identified by this researcher for email usage concern privacy and message transparency. These two concerns are discussed in more detail below.

Firstly, Email integration into the daily workflow gives users the ability to find information quickly, but it also poses a privacy risk as some emails stored by the users such as, personal or confidential information (the user's personal performance reviews or medical appointments) may be easily accessed by others,. However, these privacy concerns may be set aside in certain organisations where convenience takes preference over privacy (Wedgeworth 2008).

Secondly, another challenge for using Email as a knowledge sharing and communication platform concerns message transparency and awareness (Leonardi 2014). Employees send out Emails which might be useful to others but the potential knowledge sharing opportunity is lost if the receivers do not see the message. Leonardi (2014) also found that employees were wary of sending out Emails to various people as this might cause confusion or be perceived as a nuisance.

This researcher believes that the above advantages and disadvantages of Email can be addressed by an alternative platform such as Twitter. A discussion will follow below for the use of social media as an alternative knowledge sharing platform within organisations.

2.6 Alternative Knowledge Sharing Platforms

Alternative social media sites, traditionally defined as websites or applications which allow for the creation and sharing of content (Lee & Ma 2012), have already been implemented for communication through platforms such as Facebook's chat and Google hangouts (Leonardi, Huysman & Steinfield 2013). A new type of platform, namely, Enterprise Social Media (ESM) has since been proposed by Leonardi, Huysman and Steinfield (2013) as a web-based platform which makes it possible for employees in an organisation to broadcast messages or send a message to one person, indicate that certain users are communication partners, manipulate files linked to all users and read messages by anyone at any time.

One such ESM platform, the subset of Enterprise Micro-blogging (EMB), is Yammer. It was launched in September 2008 and is currently used worldwide. The main concept of Yammer is that a network represents a company, thus a network is easy to create for anyone. A corporate-issued Email address needs to be used (Riemer et al. 2011) for a user to join the network. Zhang et al. (2010) investigated the use of Yammer as a knowledge sharing tool at the time when it was still a novel tool. They stated that the user's perception of micro-blogging may change in the future. This investigation serves that purpose.

According to Panahi, Watson and Partridge (2012), their research on the use of platforms to create an environment conducive to tacit knowledge sharing identified five major requirements for the purpose. This researcher believes that social media platforms, such as

Twitter, can satisfy these requirements. The requirements are social interaction, experience sharing, observation, informal relationship and mutual trust.

Social media also enables tacit and expertise sharing among experts through synchronous communication (Panahi, Watson & Partridge 2012). Additionally, social media can create an environment to allow the observation of best practices by locating experts in a particular field and by informal networking (DiMicco et al. 2008). However, Panahi, Watson and Partridge (2012, 2013) have recommended that research into using social media as a tacit knowledge sharing facilitator is required because not enough research has been done.

Investigations by Vuori and Okkonen (2012) found that the most motivating factors for using an intra-organisational social media platform for knowledge sharing is the user's internal drive which ensures the organisation is successful and reaches its goals. The least motivating factors were financial rewards. This could suggest that if a person is comfortable sharing knowledge through social media platforms they will be inclined to use it; however, those not comfortable will not be persuaded to use it − even if offered rewards.

The motivational factors of collaborative intra-organisational social media platforms align with the traditional knowledge sharing motivational factors. The implicit advantages of using social media platforms are categorised by Vuori and Okkonen (2012) as follow. Reciprocity on knowledge sharing, simplifying day-to-day work activities, allowing users to complete these activities faster and the ease-of-use of the platform.

Adding to these advantages, Yates and Paquette (2011) found that sharing knowledge through social media increased knowledge re-use, thus dramatically reducing duplication of effort between employees as it negated the use of time-consuming formal communication channels. This approach means employees can see exactly what everyone is doing and how they are managing knowledge, including quick access to sources and other materials they might find useful in their business activities.

Vuori and Okkonen (2012) found that the barriers to using a social media platform were that users were often concerned that platforms might take too much unjustified time and effort. This sentiment was also shared by Briones, Kuch, Liu and Jin (2011) who stated that if the

organisation's management are reluctant to get on board, it can have a drastic impact on the adoption of a new platform or technology (Choi & Chung 2013; Marangunic & Granic 2015).

This influence of management is defined, for the purpose of the study, as subjective norms (SN). Subjective norms can, in turn, be defined as the perceived pressure of important individuals on a subject to use a specific technology (Choi & Chung 2013; Marangunic & Granic 2015), or in this case Email and Twitter. A user's social influence is the paradigm underlying factor in the subjective norms (Cheung, Chiu & Lee 2011). The fact that social media is all about social presence reinforces this effect; the higher the social presence of a person, the greater the social influence and popularity of that person (Kaplan & Haenlein 2009).

To further refine the ongoing discussion about the potential use of Twitter as a knowledge sharing platform the section below introduces the concept of a micro-blog in detail.

2.7 Micro-blogs

A micro-blog is a blogging platform where the amount of information that can be shared per author is enforced to be very short. These messages are then shared with that author's social network through a specific web-based service (Hennig-Thurau, Wiertz & Feldhaus 2015). Micro-blog technology has some distinct benefits when it is considered in the organisational sense.

Günther, Krasnova, Riehle and Schöndienst (2009) identified organisational transparency and improved communication as the biggest two benefits of micro-blogs. This communication benefit was cited by the participants as a major influence in their decision to adopt the micro-blog technology. Contrary to this, other participants indicated that micro-blogging would take up too much of their time and also the signal-to-noise ratio present in the micro-blog environment was of some concern. These concerns were countered by some participants who stated the nature of a micro-blog itself will combat this problem as each user is responsible and has control over their own stream of information.

The section below presents some cases of the use of micro-blogging platforms as knowledge sharing platforms within organisations to help to understand the potential impact Twitter might have on an organisation

2.7.1 Micro-blogging as knowledge sharing platform

The concept of using micro-blogging for knowledge sharing within the enterprise has been proposed and tested with other micro-blogging tools such as References@BT (Müller & Stocker 2011) and Yammer (Zhang, Qu, Cody & Wu 2010).

In their case study of the Siemens Building Technologies Division, Müller and Stocker (2011) found that the References@BT micro-blog was immediately welcomed by employees. The frequent use of this micro-blog provided employees with a way to publish and share user-generated content quickly and easily which, in turn, led to faster knowledge sharing and improved networking. The researchers noted that, as with any new technology, the adoption of this micro-blogging system took some time, and users needed a while to explore the new system before it was used to its full potential.

In terms of the Yammer system, Zhang et al.'s (2010) study yielded some success as users also shared knowledge by using it. The researchers, however, noted some limitations such as security and the user's ability to select only the information they are after, given the amount of information in their stream. These factors, they felt, could prohibit broader adoption and the overall efficiency in the system.

This suggests that the practical use of both References@BT and Yammer, as described above, positively add to this research. The study now turns to a discussion on Twitter's function as potential knowledge sharing platform in the section below.

2.7.2 Twitter

Twitter was publically launched in 2006. It is an online social networking and micro-blogging site, which was initially created for mobile devices but has been expanded unto other platforms such as desktop. Since its debut, the social network service or social networking service (SNS) has, at the time of writing, gained more than 328 million active users who exchange more than 500 million messages each day (Statista 2017). This means

that Twitter is one of the most widely used micro-blogging sites in the world (Statista 2017). The literature has revealed three characteristics that have helped Twitter gain this following.

According to Kwon, Park and Kim (2014) and Chua and Banerjee (2013) three of the most significant and independent characteristics of Twitter are (i) the short character limitation; (ii) authentication; (iii) effortless media sharing. These are described as follows:

Short character limit. The messages have a character limit of 140. In September 2017 Twitter started to test the expansion of this limit to 280 characters. During that time it was found that many people used these extra characters, but as the novelty wore off user behaviour normalised. Currently, it can be said that most people do not use the extra characters and stay within the original 140 character limit, thus the concise nature of Twitter has remained (Rosen 2017). This researcher then accepted that Twitter has a character limit of 140 at the time of the study.

Authentication. Twitter allows a user to follow other users and to be followed without any authentication. This configuration is the default option but can be changed to allow a user the option to verify followers beforehand.

Effortless media sharing. Once a user follows another user all of their Tweets can be seen which can contain pictures, videos or links to websites.

These three characteristics are significant in that they set Twitter apart from other platforms in the communication and marketing space (Kwon, Park & Kim 2014).

According to Paul, Hong and Chi (2011) Twitter can be considered as one of the most active and engaging online communities in the world today. To leverage the power of this engaged social media audience a user's social influence must be known. Twitter can help managers or other stakeholders in an organisation quickly see a user's influence by viewing the activity linked to a specific tweet of the 'influencer' (Shi, Rui & Whinston 2014). The Twitter platform is geared towards content creation and sharing by four main functions.

The desktop Twitter web interface is presented below in Figure 2.1 to show the main functions of this web interface for ease of reference. Four main functions were identified as follows:

- **Timeline:** where the user's timeline, which consists of all their own tweets as well as the tweets of all the people they follow, is shown.
- **Reply:** allows the user to reply to a specific Tweet. These replies are 'linked' to the orginal Tweet, thus giving the user an organised view of the conversation.
- **Search:** allows a user to search Twitter for keywords, people or hashtags.
- **New Tweet:** allows a user to post a new Tweet.

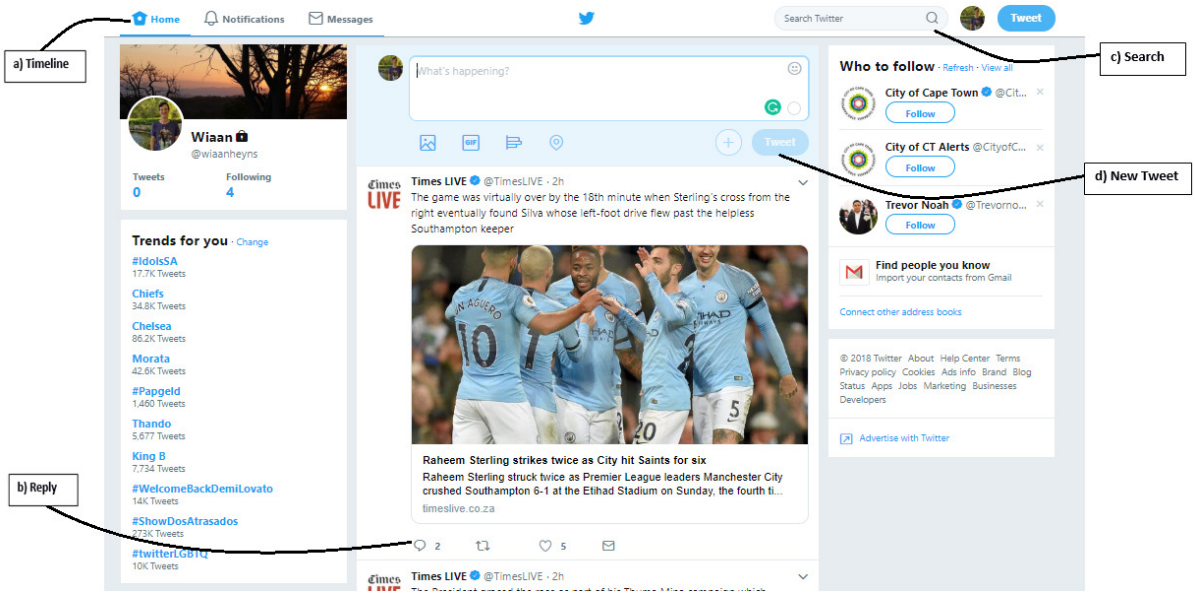

Figure 2.1. Twitter web interface

(Source: www.twitter.com Viewed 4 November 2018)

To encourage users to keep on creating new content and updating their feed, Twitter prompts users to answer the question 'What's happening?' as shown in Figure 2.2. By answering this question the users create a constantly-updated timeline, or stream of short messages on topics which can be anything from humorous to serious, such as breaking news. Once the user has typed what they want to Tweet they simply press the 'Tweet' button (see Figure 2.2) to post the message to their own, and their follower's Twitter timeline.

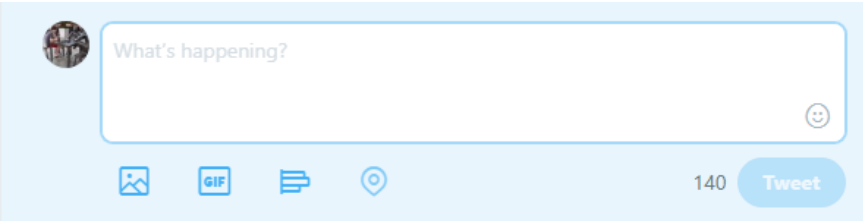

Figure 2.2. Twitter web interface to compose a Tweet

(Source: www.twitter.com viewed 24 July 2017)

Marwick and Boyd (2010) investigated the relationship between a user and their followers. They found that Twitter has a directed friendship model (see Figure 2.3). This means that users choose which Twitter accounts they want to follow and thus whose Tweets they will see in their stream. The users also have their own group of followers which will see all their Tweet messages. This directed friendship model means that Twitter provides a platform where groups of people can interact without social expectation.

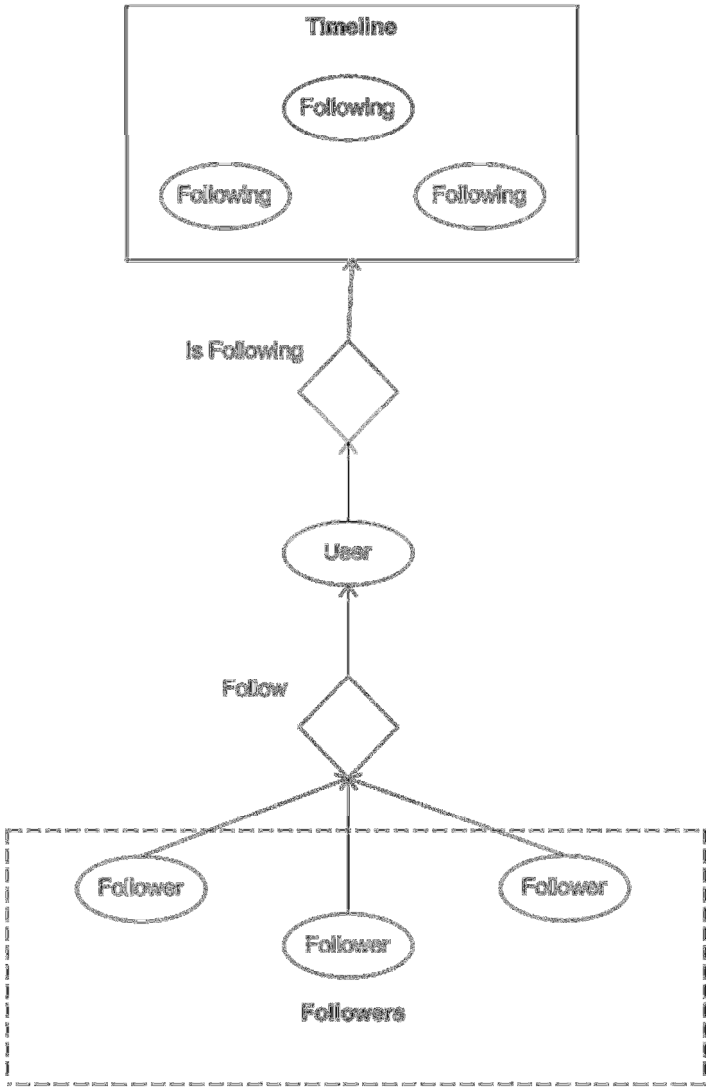

Figure 2.3. Directed friendship model of Twitter

(Source: Marwick & Boyd 2010)

As mentioned above, Twitter allows users to Tweet via the Web, through SMS and even via Applications written for desktop computers, Smartphones as well as other devices. This means information can be shared effortlessly and quickly to a broad audience (Marwick & Boyd 2010).

This effortless Tweeting experience combined with the directed friendship model means that a user's timeline can become polluted with unwanted information (Garcia Esparza, O'Mahony & Smyth 2013). Therefore, a frequent process to curate and clean a timeline will ensure Twitter remains a valuable resource rather than a distraction. Sutton et al. (2013) state that organisations are already using informal communication platforms; however, but their

research has also shown that integrating and using social media platforms has not been effortless, even though the use of the technology may be.

When considering the potential impact of Twitter within organisations, this researcher believes Twitter can be used to share and search for work-relevant information and even for seeking advice from experts. The technology's characteristics, such as brevity, mobility, broadcast nature, of micro-blogging lays a platform where the users' cost of knowledge sharing is reduced, thus it is easier for other users (employees of the organisation in this case) to obtain not only useful information but information that is trustworthy.

In the study conducted by Zhang et al. (2010) a Twitter user followed people that shared an interest in social media and posted a lot about what they read and thought in the field (marketing in their case). Thus an exchange in information and shared perspectives was instantly possible from a variety of work contexts. Another Twitter user found that micro-blogs can help senior managers filter strategic information down to all their group members.

Thus Twitter can be used by people at work not only to keep in touch and up-to-date with each other but also (and more importantly from an organisation's point of view) share and exchange information as needed. Java, Song, Finin and Tseng (2009) conducted a study where they tried to determine the apparent intention of a Twitter post or Tweet. They read and categorised Tweets which allowed for their identification and analysis of the main user intentions in Twitter posts. The most important section of knowledge sharing, from the intentions identified, was that of sharing information itself (mostly in the form of URLs). According to Java et al. (2009), around 13% of all the posts in the data set collected contained some URL in them. Obviously, due to the character limit of Twitter updates, a URL shortening service like TinyURL (https://tinyurl.com/) was needed to make this feasible.

The discussion above suggests that Twitter is being used on large scale to serve a variety of informal communication goals. Obviously the goals for knowledge sharing within an organisation differ from an individual user's goals. However, the technology supporting micro-blogging still has challenges associated with its use, especially for work purposes, and the researcher was able to identify three current issues specifically affecting micro-blog adoption in organisations.

- Firstly, Zhang et al. (2010) found that even in organisations that use Yammer (discussed in the section 2.7 above) as a corporate version of Twitter to provide micro-blog support for a company's internal use, users are still worried about the safety of discussing their business-sensitive information.
- Secondly Zhang et al. (2010) found that users felt annoyed by frequent Tweet messaging, and would like to filter information based on a user's current contexts and interests. A capability for group users who only want to share updates with certain groups was also mentioned. Twitter allows a user to subscribe to the updates of another user without permission or approval and the system sends a user's updates to all their followers. Twitter has implemented a system where the manual approval of all followers can be forced, but this is not the norm and novice users might not know about this feature.
- Thirdly, together with the possibility of unwanted frequent messaging by users, another problem is the bombardment of information which may not by relevant to them. Twitter provides two ways to handle both the noise and relevancy problems, firstly, by using hashtags to limit the information stream to follow only selected people, or secondly, by limiting information on the basis of specific topics (Zhang et al. 2010).

This suggests that these problems are not insurmountable and the advantages of Twitter to the organisation then far outweigh the potential adoption challenges. One such advantage is the creation of an environment conducive to teamwork. Meyer and Dibbern (2010) isolated three ways in which Twitter could benefit teamwork.

- Firstly, organising and coordinating the work of individuals and groups. Meyer and Dibbern (2010) found that Twitter was used by some participants:
    - to arrange spontaneous team meetings.
    - to publicly delegate tasks to other members in the team which could be seen by everyone in the team to inform them what was going on and who was working on which task.
    - to post updates to other team members internally about what they were doing at that stage for everyone in the team to get a snapshot of the progress of the project.
- Secondly, for the improvement of interaction between individuals within the organisation. Twitter was used as an informal communication device in that messages

were sent to the whole team as well as directly to specific individuals. It should also be noted that the status updates on the user's Twitter timeline gave other users a launching point for their own conversation (Meyer & Dibbern 2010).

- Lastly, improvement of knowledge sharing. Twitter was also used to make others aware that the participant needed help or information thus providing an opportunity for others to share tacit and explicit knowledge. Meyer and Dibbern (2010) also identified the fact that Twitter could be used to share URLs and other media as a potential avenue for richer knowledge sharing.

The discussion above has identified the main characteristics of Twitter and further suggests its capability as a knowledge sharing platform. The section below takes a more detailed look at the successful uses of Yammer as knowledge sharing platform.

2.7.3 A Twitter clone for the corporate environment: Yammer

The success micro-blogging platforms such as Twitter in the public space, motivated some organisations to look into this type of technology provided it was guarded by a firewall. This suggests Yammer has been used in organisations because the system shares some attributes with Twitter. This researcher's knowledge of the pitfalls and successes of Yammer's usage allows an opportunity to create a strategy for implementing Twitter as knowledge sharing platform.

Yammer mimics social media sites like Twitter and Facebook as it:

(i) has a continuous timeline of information as the focal point;
(ii) gives users the choice of whom to follow;
(iii) automatically subscribes a new user who joins the company network to all other users in the network;
(iv) allows users access to features similar to Twitter, for example, the ability to mention another user by simply including that person's @username in the message.
(v) has a direct messaging function to allow for private conversations which will not show up in everyone's timeline (Riemer, Scifleet & Reddig 2012).

However, Yammer functions differ to Twitter by:

(i) sorting the messages and replies via a custom-tailored algorithm in the message stream;

(ii) using a threaded layout of message replies;

(iii) adding functionality of the group's features. Groups made up out of different users within the network can be created based on specific requirements. (Although this is similar to the Twitter lists function it has a richer feature set in which users are able to only post updates to members of a particular group.);

(iv) not restricting numbers of characters to a post (compared to the 140 character length restriction on Twitter posts);

(v) richer knowledge sharing. Although officially pushing this factor as the main benefit of Yammer more research is needed to state with certainty the use of the platform in different organisational situations and what types of posts are made and exchanged on the platform (Riemer et al. 2011); and by

(vi) a tool that allows organisations to be more productive by the exchange of short and continuous answers to the question: 'What are you working on?'

Consequently, it can be seen that while Yammer differs from Twitter in some respects; as a service it is very similar to Twitter because it is still a micro-blogging platform (Riemer, et al. 2011); however, the results of the survey conducted by Zhang et al.(2010) show that most users did not find Yammer useful. Figure 2.4 shows the results of the survey.

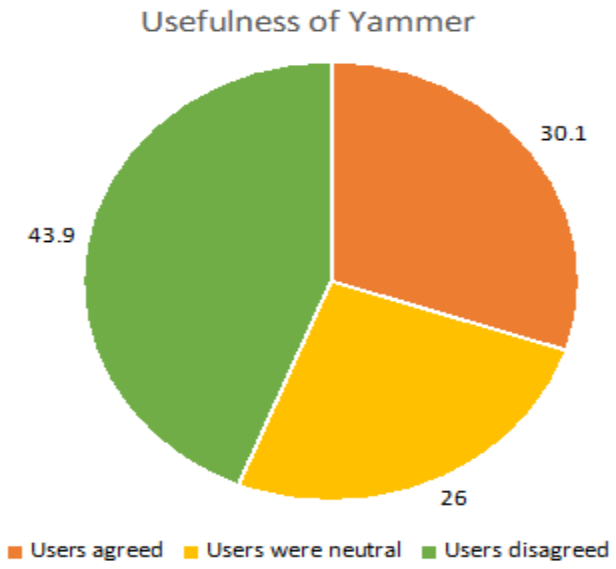

Figure 2.4. Usefulness of Yammer

(Source: Zhang et al. 2010)

From Zhang et al.'s findings (Figure 2.4), it can be seen that 26% of the users stayed neutral in terms of Yammer's perceived usefulness despite engaging in the platform. This means that while regular Yammer readers find more value in the platform than those who read less regularly (Zhang et al. 2010) they still may not perceive the platform as useful. This shows an important fact for using social media platforms such as micro-blogs – users who only read rather than use them can still find value in the platform (Zhang et al. 2010).

On the other hand, Jarrahi and Sawyer (2015) found that users who post more messages tend to value Yammer even more. This suggests that this is an important caveat to Twitter usage in an organisation. Users must post and be active to fully realise the value of Twitter for them. Reading the Tweets of others may only give them some realisation of value, but as stated above, they still may not consider the platform as useful.

Jarrahi and Sawyer (2015) also studied the use of Yammer in organisations. They found that as time passed more individuals at the organisation started to use Yammer and integrate it into their workflows. This adoption was not stopped or stunted by the organisations and both Jarrahi and Sawyer (2015) and Zhang et al. (2010) found that users want to spend more time exploring the possibilities of Yammer even though they may not be fully aware of Yammer's capabilities.

Mäntymäki and Riemer (2016, p. 1047) stated that Yammer provided a space for discussing work ideas with co-workers and this is also seen as the most valuable feature of the platform. These informal discussions were also seen as a 'social lubricant' leading to better communication and ideas. Riemer and Tavakoli (2013, p.16) found most conversations taking place on Yammer in the organisations analysed could be categorised as information sharing and furthermore, the Yammer groups' function also facilitated 'topic-centred information sharing and problem-solving'.

The discussion above confirms that Yammer has shown that it can be used as a knowledge sharing platform within an organisation. This suggests that Twitter can not only fulfil this role but that the public nature of Twitter can enhance the knowledge sharing process. However, the same public nature of Twitter can also be the reason organisations are hesitant to use Twitter due to security concerns in the workplace. In the section below, these concerns

are not only explained but also introduce a mitigating strategy which may reduce the reluctance of organisations to adopt a new social media platform.

2.8 Mitigating Security Concerns of Social Media in the Workplace

Whether or not an organisational culture fosters the willingness to share knowledge, the literature shows that privacy is at the forefront of discussions on the risks of using social networking platforms within an organisation (Ehrlich & Shami 2010; Günther et al. 2009; Sánchez Abril, Levin & Del Riego 2012; Zhang et al. 2010).

To fully understand the concept of security in workplace social media usage, it must be understood that a distinction can be made between a security issue and a privacy issue. The former can be defined as the unauthorised access gained by an unauthorised party to an organisations web services coding or written language (Microsoft 2017a). A privacy issue, on the other hand, does not necessarily involve a breach in the security of the organisation's IT systems, but rather that unwarranted access of private information has been granted to an outside party (Microsoft 2017b). Unfortunately, owing to the public nature of Twitter it poses an inherent potential privacy issue. People are hesitant to mention project or client specific information on a public feed because they fear the reach the information may have and who could gain access to this information (Zhang et al. 2010). Public platforms, such as Twitter, could also capture any information the users of that service offer up as it goes through their platform (Lucas & Borisov 2008). Twitter may also be used as a cyber-attack platform for a potential strike against the organisation.

The literature revealed three major forms of cyber-attacks against social media platforms; (i) spear phishing, (ii) social engineering and (iii) inherit trust when using social media platforms. These are discussed in more detail below.

- Firstly, the spear-phishing attack is targeted and formulated with a specific individual in mind. The main aim is the fool that individual, for example, into clicking a link in an Email that will instal malware on their computer. With the amount of information available about an individual on social media it becomes much easier to create a spear-phishing attack that will fool the individual (Kumar & Kumar 2014; Parmar 2012).

- Secondly, social engineering can be described as the process of exploiting the trust of others to gain unauthorised access to a system and the information it holds (Mouton, et al.). Humans are usually a weakness in the security of any organisation and will be exploited by hackers wherever possible (Conrad 2012). This exploitation leads to the attacker gaining critical information which can be used to exploit the computer systems of the organisation.
- Lastly, the way a social media platform works means that there is an inherit trust between the user and that said platform. Should this trust be broken by an attacker gaining access to a user's social media account it leads to a potential compromise in security of the rest of that user's social network (Delerue & He 2012). With the prevalence of sharing links to websites on Twitter there is a real danger that a user may click a link to an unsafe website, which can then be used as platform to compromise the user's, and by extension, the organisation's computer systems (Kumar & Kumar 2014; Schneider 2012).

As the above discussion on forms of cyber attacks shows, the use of social media platforms in businesses inherently brings security risks. Thus organisations must be mindful of these risks and put a policy in place that outlines acceptable social media use by its employees (Almeida 2012). Delerue and He (2012) identifies the techniques for mitigating social media security risks which have also been supported in the literature. These are, i) monitoring ii) education and training; iii) easily understood security policies iv) discipline for breaches of security policy; v) adaptation to changes in policy; vi) protection for all security devices used by employees; vii) and a response plan for social media incidents. These are detailed below:

Monitoring of the internet and social media. An organisation must be aware of how it is represented on the internet so that it can react to negative or positive perceptions. The only way to enforce the social media policy of the organisation is to monitor the employees' use of the internet and more specifically social media site usage. Some companies outright block some social media sites to minimise any online attack on their organisation (Almeida 2012).

Education and training of employees. Training programmes must be in place for users to highlight not only their personal responsibility in regard to security, but also to raise security awareness in general (Lucas & Borisov 2008).

Security policies must be easy to understand. The social media security policy must be written in simple language to ensure it is easily understood by everyone in the organisation. It is, therefore recommended that the social media security policy use multimedia, such as pictures or videos, to enrich the resources available to employees (Almeida 2012; He 2013).

***Discipline for breach of security policy*.** The organisation must make it clear that the social media security policy will be enforced and employees who breach this policy will be disciplined accordingly (Almeida 2012).

***Adaptation to technology changes for security*.** Hardware technology is changing all the time and the company must frequently adapt to accommodate any significant changes and share the changes to social media security policy with employees so they are clearly understood in their business processes (Almeida 2012; He 2013). In addition, all software must be updated regularly to ensure all security fixtures are installed. The updates should be done not only for operating systems but also for all applications that are relied on by the organisation (He 2013).

***Protection for all devices used by employees*.** Users of various devices such as desktop, laptops, tablets and cellular phones can access social media at any time. Attacks on mobile devices are increasing, the organisation must be aware of this and ensure there is adequate protection for these devices (Delerue & He 2012).

***Response plan for social media incidents*.** The organisation must have a response plan should there be a security breach of any kind. The plan should streamline the communication during the time of crises to assure customers that the organisation will do everything in its power to prevent a re-occurrence (Mortleman 2011).

While these mitigation techniques may be in place, certain barriers to their adoption may remain. Therefore, the aim of these techniques is to help businesses look past the possible security risks and see the advantages these platforms may hold for their business processes.

In the Sections 2.9 and 2.10 below two theories are presented, namely the Technology Acceptance Model (TAM) and the Uses and Gratifications Theory (UGT). These theories were used in this study to measure the level of acceptance of Twitter and Email within organisations.

2.9 The Technology Acceptance Model (TAM) and its Constructs

The TAM (Figure 2.5) was originally proposed by Davis (1989) to show the willingness of a user to accept a new technology based on user perceptions and it was designed to apply to any domain of human-computer interactions (HCI). The TAM attempted to reconcile psychological factors with the use of information and computer systems. Figure 2.5 below shows the TAM constructs and the relationships between these constructs indicated by arrows. The letters have been added from '*a*' to '*f*' to indicate the relationship between the arrows and allow for ease of reference during the discussion in the sections that follow:

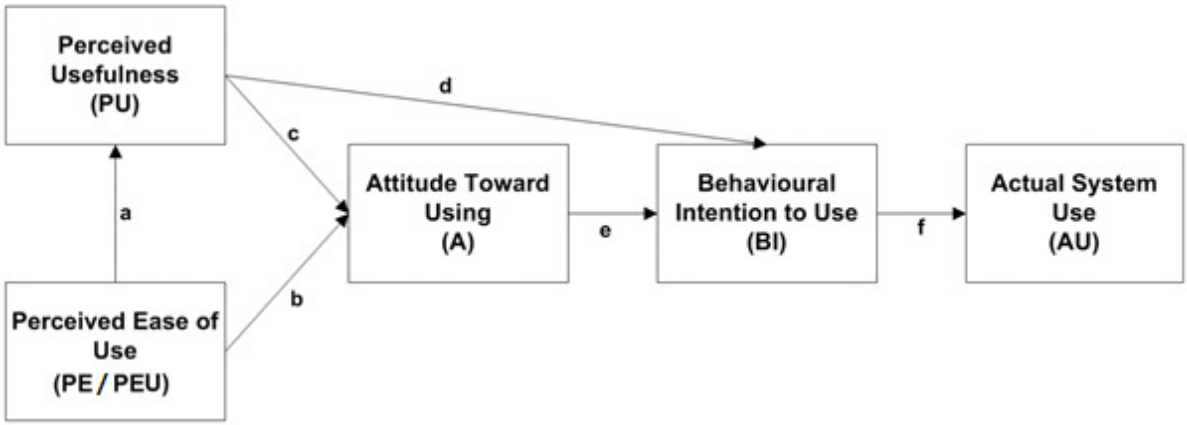

Figure 2.5. Technology acceptance model (TAM), figure adapted from Davis et al. (1989)

Davis (1989, p. 985) defined PU as 'the degree to which a person believes that using a particular system would enhance his or her job performance'. On the other hand, PEU is defined as 'the degree to which a person believes that using a particular system would enhance his or her job performance' (Davis 1989, p.985). For the purposes of this study, the researcher defines PEU as the degree to which the user believes that using Twitter or Email would be free of effort, and PU is defined as the degree to which the user believes that using Twitter or Email would enhance their job performance.

When considering the aspects of PEU and PU the main assumption of TAM is that PEU and PU will influence a user's intention to use a new technology (Shin & Kim 2007) as indicated by arrows *c* and *b* in Figure 2.5. PU also directly influences Behavioural intention to Use (BI) as indicated by arrow *d*. PEU does not have a direct effect on BI but has a positive indirect

effect as it effects PU as indicated by *a*, which does directly affect BI as indicated by arrow *d* (Zarmpou et al. 2012). Behavioural intentions can be described as the affirmed probability that a user will do certain behaviour. As indicated by arrow *f* in Figure. 2.5, the behavioural intention of a user leads to the actual usage of a new system or technology.

As stated in section 2.7 above, in this study the subjective norms are defined as perceived pressure on important individuals to use a specific technology (Choi & Chung 2013; Marangunić & Granić 2015). Traditionally, according to Teo, Lee and Chai (2008), supervisors or upper management are considered to be the important people. Kesharwani & Bisht (2012) also observed that within the field of technology acceptance a user would be more likely to find a new technology useful if their colleagues do so. Thus the direct effect of subjective norms on intention to use is that users may perform an action because these important people think they should, even if they do not deem it to be advantageous to themselves (Choi & Chung 2013). Kesharwani and Bisht (2012, p.308) further found that users are influenced by others within their immediate social group to create or keep up a 'favorable image' within that group.

Accordingly, the TAM has been implemented in multiple studies (Hsu & Lin 2008; Ngai, Tao & Moon 2015; Rauniar et al. 2014) of social media research. The main focus of these studies has been to use the constructs of TAM (see Figure 2.5) to determine if a new technology will be accepted by users. These studies were used as the basis for this research by adding the construct of the subjective norm to extend the TAM (Saeed, Sinnappan & Markham 2012).

The TAM was used by Hsu and Lin (2008) to investigate the acceptance of blog usage. They found that ease of use and enjoyment were the most important factors to blog acceptance and that perceived usefulness carried no weight in the equation. In regard to IT as a whole, it was found that intrinsic motivation factors such as enjoyment were the most important. This means should a user not perceive the technology as enjoyable they are less likely to use it. Ease of use was also found to be a critical factor since users would even resist the technology outright because they face difficulties using it.

When considering TAM in isolation, Chong (2013) believes that a single model approach to technology adoption might not be sufficient enough to navigate all the intimacies involved in

research involving human behaviour. This researcher agrees with this sentiment by Chong (2013) and has opted to integrate the Uses and Gratification Theory (UGT) together with TAM to ensure the research process delivers the richest data possible. The UGT as well as the constructs used in this research endeavour is explained in detail in the section below.

2.10 The Uses and Gratification Theory (UGT)

The aim of the UGT is to reason why an individual will specifically go to media platforms to consume that platform's content and be gratified on some level. The theory also goes beyond the gratification of a specific need and discusses the use of a media platform to enhance knowledge and social interactions (Whiting & Williams 2013). The UGT also makes four assumptions about the users and the media platforms, and media content involved (Csikasz 2016). These assumptions in regard to Twitter are explained below.

Firstly, the user is actively engaged in the media and platform as an active participant in the choice and use of a specific platform. A platform is sought out because it fulfils a specific need or function they want to accomplish. Secondly, the user makes deliberate and informed decisions when seeking out a media platform. Users will base their motivation for the choice of a new platform or technology on previous similar experiences. Thirdly, all users are unique. Twitter as a knowledge sharing and communication platform may gratify different needs which will depend on each user's behaviour. Fourthly, social media content is not considered to be in solidarity with Twitter, and it needs to be understood that Twitter competes with various communication platforms. Twitter will also compete with other platforms in terms of functionality and usability.

The internet and the popularity of social media platforms have seen a rise in the interactivity from users when compared to older technologies such as radio or even newspapers. The UGT, as research method, has been used to explore which needs are gratified by the use of social media platforms (Chen 2010). According to the University of Twente (2014) the UGT can be evaluated on the basis of three main constructs, namely:

(i) to explain **what** users do with the media to satisfy their needs;
(ii) to identify the underlying motives **why** users use media;
(iii) to find the **consequences** of media usages (i.e. positive or negative).

The UGT is strongly rooted in the communications literature, which means the theoretical foundation is a good fit for research involving social media usage (Ku, Chen & Zhang 2013; Malik, Dhir & Nieminen 2016; Pai & Arnott 2013). These three main constructs as theoretical basis were used to guide the interviews. A summary and synthesis of the research focal points is provided from the literature review in the next section.

2.11 Summary and Synthesis

The aim of this literature review was to build a basis for the research. The topics discussed within this review were driven by the research objectives and questions. The study's aim was to make a comparison between Email and Twitter as knowledge sharing platforms in small South African businesses in the Western Cape. This was done using a comparative approach because comparing a new platform to an established one has been shown to be valid by various researchers (Lumezanu & Feamster 2012; Church & de Oliveira 2013).

A research method which comprised two aspects; TAM and UGT, were chosen for this study to ensure the research questions were answered even if it turned out that the individuals surveyed were not using Twitter in their business. The data from the survey was used by the TAM to measure the PU and PEU of Twitter and Email in order to compare the platforms on this basis. Subjective norms were also integrated to determine if SN influence a user's behavioural intention to use (BI) and actual use (AU) of Twitter.

The UGT was then used to determine the gratifications of using Twitter and Email. The themes identified allowed the researcher to compare and contrast Twitter and Email usage. This information also helped to understand the attitudes towards using Twitter and Email within businesses. This research method and its relation to TAM and UGT will be explained in more detail in Chapter 3.

Through the literature review conducted by the researcher five key aspects were identified.

(i) the definition of knowledge;
(ii) knowledge sharing;
(iii) privacy and security;
(iv) the chosen evaluation methods (TAM and UGT) ;

(v) this study's place within the field of research in relation to the other relevant studies.

These aspects are further described in detail below.

- Firstly, the **definition of knowledge** was constructed for the purpose of this study, as a framework which is used by the knower to evaluate and process new information from the outside world. The knower's framework is constructed through past experiences, expertise and the value system of the knower.
- Secondly the two types of knowledge were identified as **tacit and explicit**. This means that there is a need for both tacit and explicit knowledge sharing within organisations. Organisations can garner a competitive advantage should knowledge be actively shared throughout the entire organisation (Wang & Wang 2012). The organisation must create an organisational culture conducive to knowledge sharing and flexible to the platforms used for sharing to ensure its success (Ismail Al-Alawi, Yousif Al-Marzooqi & Fraidoon Mohammed 2007). The organisational culture can determine if a platform such as Twitter will be successful or not. Should the organisational culture not be one of sharing knowledge the platform used to share knowledge will not matter.
- Thirdly, **privacy and security** were identified as a potential stumbling block to social media adoption within a business. A mitigation strategy was presented which should allow businesses enough protection and ease to move forward with social media adoption within their businesses.
- Fourthly, the researcher use of **two evaluation methods** (the TAM and the UGT) were chosen, firstly because the TAM fits in well with the paradigm and allows the evaluation of large sets of data gathered through the use of qualitative data collection methods such as questionnaires, and the UGT was chosen as many may not want to use Twitter and thus the focus was moved to the people who are using Twitter to identify which gratifications they are experiencing with it (Csikasz 2016).
- Lastly, the **literature revealed a gap** which this research intends to fill; previous researchers (Adamovic, Potgieter & Mearns 2012; Vuori & Okkonen 2012) have proposed that more research is needed to see if participants are inclined to share knowledge when the focus is widened to the organisation as a whole. Furthermore Leonardi and Treem (2012, p.178) described the research done on organisational

social media use to be ‘in its infancy’. Micro-blogging has now existed long enough for the novelty (Zhang et al. 2010) of knowledge sharing via a micro-blogging social media tool to be re-evaluated.

2.12 Chapter Conclusion

To conclude, the eight main concepts identified as crucial to answer the research question are the focus of the literature review in this chapter. A general background to the field of knowledge sharing is sketched and the potential of knowledge sharing though micro-blogs is explained as well as some of its main barriers. Security and privacy issues are identified as a constant issue with social media use in an organisation and a mitigation strategy is prescribed to mitigate this issue.

The Technology Acceptance Model (TAM) is explained to ensure the reader is aware of how the model works and how these constructs are used in this study. The Uses and Gratifications Theory (UGT) is also presented to ensure that the reader has an understanding of how this model is constructed and how it is implemented.

The explanation of these concepts in this chapter provides a basis for the next chapter in which the details of the research method is discussed and explained.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

To ensure that the research could be validated, the central concepts of this study were based on the literature review in Chapter 2, In Chapter 3, the scientific foundation on which the research was conducted will be described.

The research process, as identified by Blankenship (2010) and Tustin (2005, p. 76) is used to structure the main sections of this chapter to introduce the research problem and establish the research objectives. Next, the research paradigm is presented together with the chosen research design driving this study. After the research design is established the data sources, sampling and instrumentation plan are presented. Thereafter this researcher explains how the data generated through these instruments were collected, stored, analysed and presented. Lastly, the ethical considerations are discussed. The first section gives an overview of the research process.

3.1 The Research Process

A research process was followed from the start to make the most of time and resources, Therefore, the steps proposed by Blankenship (2010) and Tustin et al. (2005, p. 76) were combined to create a structured research process (Figure 3.1) as follows:

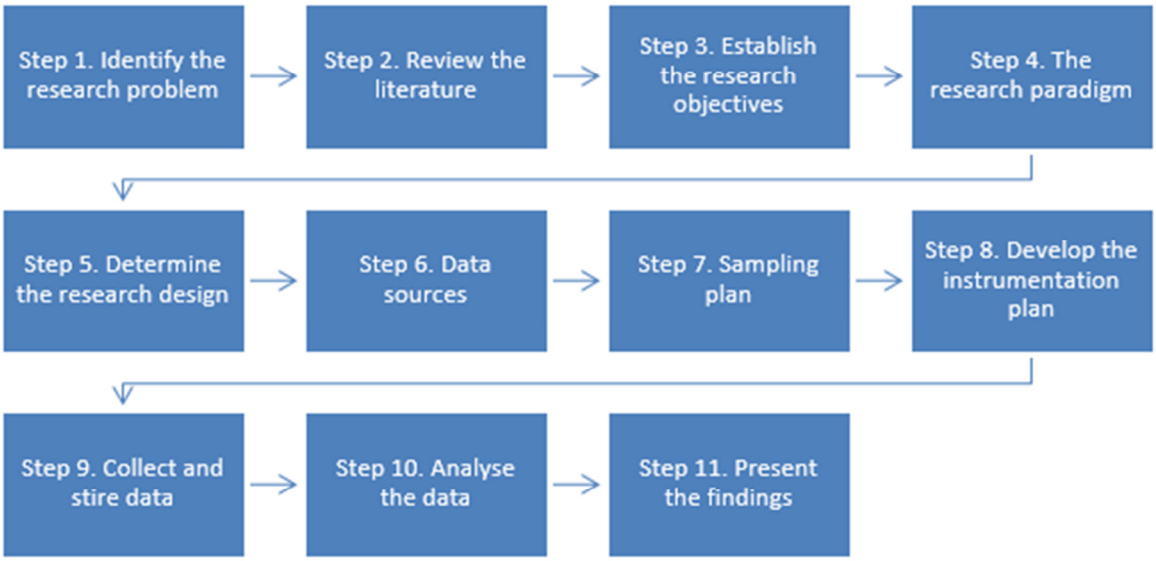

Figure 3.1. The research process (adapted from Blankenship, 2010 and Tustin, 2005, p.76).

The 11-step structure of the research process, as set out in Figure 3.1 above, is detailed in the sections below:

3.1.1 Step 1: Identify the research problem

This step can be examined from two distinct vantage points. Firstly, from the operations of small businesses in South Africa, and secondly, by looking at the potential use of social media platforms such as Twitter in these businesses. The GEM South Africa Report (2014) lists various challenges faced by small businesses in South Africa, such as access to financial support, labour laws, crime and restricted market access. For the purpose of this research, however, the focus was on addressing the challenges of poor infrastructure; more specifically, the easy access to communication and knowledge sharing infrastructure. This challenge was identified in the literature as a significant barrier to growth for small businesses (Chimucheka & Mandipaka 2015; Leboea 2017; Zondo 2016). The lack of infrastructure can be addressed through the use of Twitter because it is a free service. In fact, social media, has made it possible for an organisation to share knowledge that promotes collaboration, joint learning as well as quick and efficient exchange of information between users (Bonsón, et al. 2012). In recent times companies have focused on knowledge creation and sharing initiatives to sustain a competitive edge (Alegre, Sengupta & Lapiedra 2013).

However, there is apossible challenge with using social media platforms, like Twitter, as a knowledge sharing tool because people may not see social media as a platform which can be used in a professional manner (Leonardi & Treem 2012). For example, many people may think that a meeting to present a slideshow should be taken more seriously than something posted on social media even though it is the same information being shared. Researchers, however, have stated that all knowledge sharing and informal communication within a business helps connect individuals and integrate different parts of the business because this integration, in turn, improves the knowledge pool available across the business as a whole. Consequently, access to this wide pool of knowledge and information helps to foster an environment and culture of innovation in the business (Chang & Hughes 2012).

3.1.2 Step 2: Review the literature

The main research question involves an exploration of the use of Twitter as a knowledge sharing platform in small South African businesses in the Western Cape. This was done by comparing the perceptions and actual use of Email and Twitter as knowledge sharing platforms in several small South African businesses located in the Western Cape.

The literature review revealed a gap in the research. Vuori and Okkonen (2012) together with Adamovic, Potgieter and Mearns (2012) recommend more research to analyse whether employees are inclined to share knowledge with an organisation as a whole instead of focussing only on specific teams or business units. In 2012, Leonardi and Treem (2012, p.178) described the research done on organisational social media use to be 'in its infancy'. Similarly, micro-blogging is no longer the novelty it once was, as described in 2010 by Zhang et al. (2010), and this researcher, therefore, believes that knowledge sharing via a micro-blogging social media tool should be re-evaluated in 2018. This research, therefore, will attempt to fill this gap in the literature by comparing Email and Twitter as knowledge sharing platforms in small South African businesses located in the Western Cape. Research objectives (RO) were created to give the researcher the information needed to adequately compare Email and Twitter. In addition, the main research questions (RQ) and sub-questions (RSQ) were defined (see Section 1.4).

3.1.3 Step 3: Establish the research objectives

After the research problem has been defined and the research questions established, the researcher determined the research objectives that ultimately lead to answering the research question (see Section 1.4).

3.1.4 Step 4: The research paradigm

For a logical and consistent research paradigm, use was made of the 'Research Onion' approach proposed by Saunders, Lewis and Thornhill (2003, p. 83). This is depicted in Figure 3.2.

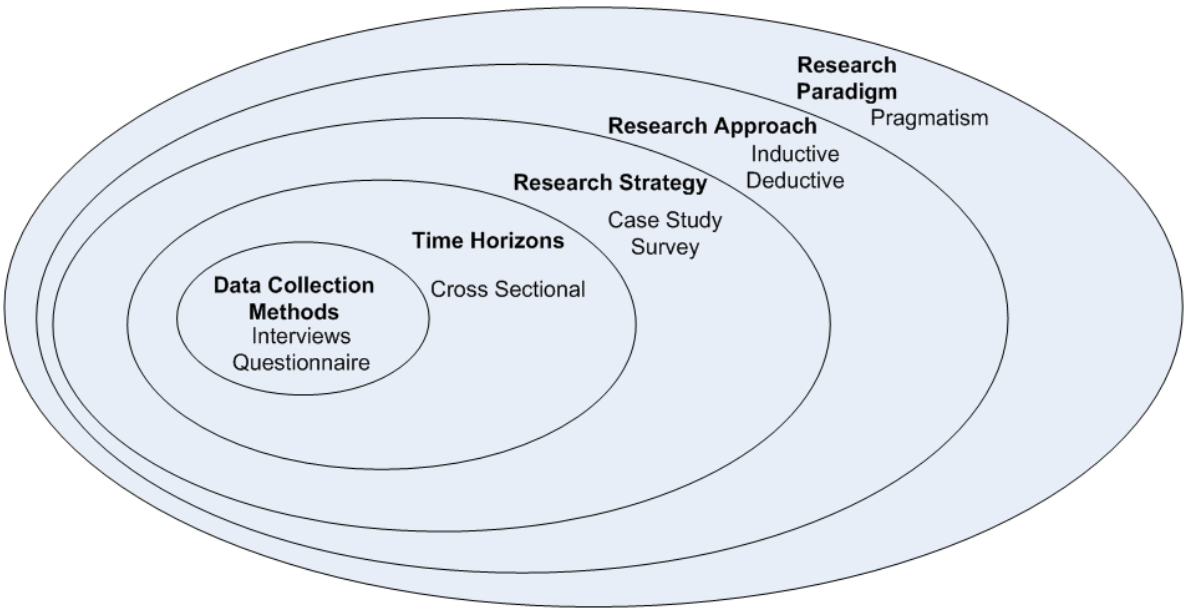

Figure 3.2. The research onion (adapted from Saunders, Lewis & Thornhill 2003, p. 83)

The research onion is constructed with five layers; namely, the research paradigm; research approach; research strategy (design); time horizons; and data collection methods. In the sections below the choices for each layer and its implementation in this research project is presented.

3.1.4.1 The research paradigm

According to Savickas (2012) a research paradigm is a world view that instructs the researcher's methodology throughout the research process. Furthermore, the research questions should be the decisive factor when it comes to establishing the research strategy (Wahyuni 2012). In addition, the research process is underpinned by three principles: ontology, epistemology and methodology (Antwi & Hamza 2015). The pragmatism philosophy provides the basis for the idea of that being forced to choose only one of these principles as unrealistic in practice (Creswell & Clark 2011).

Pragmatism philosophy places the focus on the research questions posed. For this study the researcher used the pragmatic 'what works' process to allow for answers to research questions which could not be completely answered using either a quantitative or qualitative approach exclusively (Creswell 2003; Creswell & Clark 2011). The researcher also chose the pragmatic research paradigm because the approach fits well with the value system of the researcher (Creswell 2003; Creswell & Clark 2011). Additionally, the research study

followed a mixed method research approach to combine quantitative and qualitative data which works well with the pragmatist research approach (Armitage &Campus, 2007). When the pragmatic paradigm was used as the lens to view these three principles the following came to light in the three principles:

- **Ontology.** Firstly, the literature defines ontology as 'the way the investigator defines the truth and reality' (Antwi & Hamza 2015, p. 218). This research is considered external and for the purpose of this research endeavour, ontology is covered by the investigation of whether Twitter exists as a social networking site (SNS), and if it is being used by small businesses.
- **Epistemology.** Secondly, this principle is defined in the literature as 'the process in which the investigator comes to know the truth and reality' (Antwi & Hamza 2015, p. 218). According to Ihuah and Eaton (2013) the focus of this principle is on the practical application to problems. The pragmatic research approach is concerned with finding practical, real world solutions to problems using mixed methods. Facts can be provided for a research question either by subjective or objective means. During this case study, therefore, the first-hand accounts of respondents in the small businesses who use Twitter as a knowledge sharing platform were analysed. Johnson et al. (2007) state that pragmatic research is a good fit in the rationale and justification of using a mixed methods approach in the epistemological paradigm.
- **Mixed methodology**. This is defined in the literature as 'the method used in conducting the investigation' (Antwi & Hamza 2015, p. 218). This methodology fits well with the chosen pragmatic research paradigm and provides the best opportunity to investigate the research questions (Antwi & Hamza 2015). It would limit the study if research questions only use a quantitative research or only a qualitative research approach.

3.1.4.2 The research approach

The inductive approach is also referred to as a 'bottom up' approach whereby the researcher starts with specific observations, and looks for patterns on which to base a hypothesis which leads to a general theory. The deductive approach, on the other hand, is a 'top down' approach whereby the researcher begins with a general theory and collects observations to prove or disprove the original theory. A mixed method research approach that subscribes to a combination of the inductive and deductive approach was chosen. This deductive approach collected the quantitative data to formulate a theory that Twitter can be used successfully as

knowledge sharing platform in small businesses. The focus then shifted to investigate the reasons through the collection of qualitative data by an inductive approach. This allowed for the advantages and disadvantages to emerge on the question of using Twitter as knowledge sharing platform in small businesses (Gray 2013).

3.1.4.3 The research design

The research design is presented in detail in Step 5, Section 3.1.5 below.

3.1.4.4 Time horizons

The literature (Charumbira 2013; Hamid 2015; Sahay 2016) describes two time horizons; longitudinal and cross-sectional. The main difference between them is that longitudinal studies stretch over a period of time. Cross-sectional horizons, on the other hand, give a 'cross-section' of a specific time frame. Given the definition this study was classified in the cross-sectional time horizon category (Charumbira 2013, Hamid 2015; Sahay 2016).

3.1.4.5 The data collection methods

The data sources and data collection methods are explained in detail in Step 6, Section 3.1.6 below.

3.1.5 Step 5: Determine the research design

Figure 3.3 shows how the researcher interpreted the mixed method research design in this study by collecting two sets of data concurrently with two methods and integrating the data collected from each method.

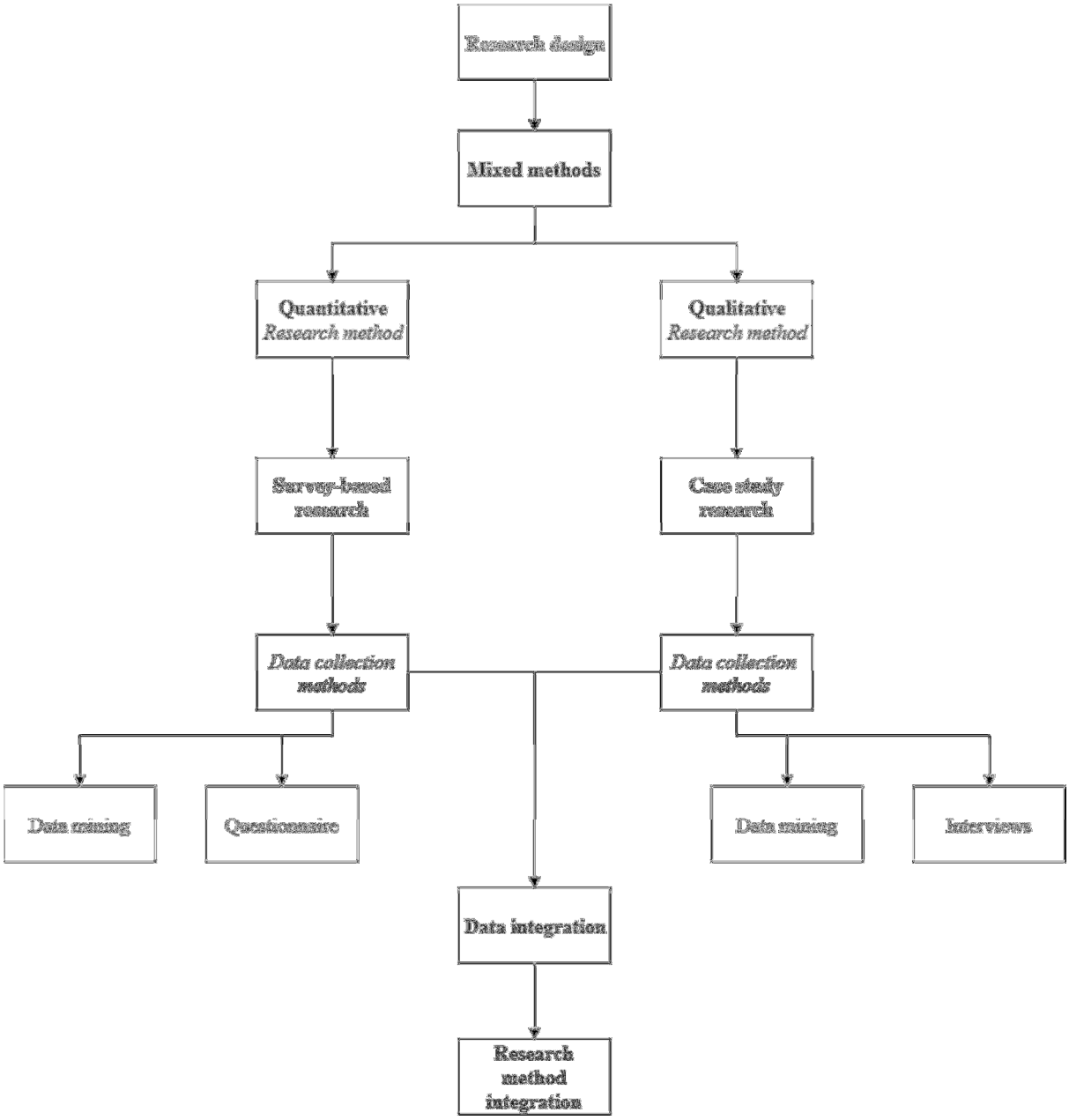

Figure 3.3 Research design

The data integration stage, shown in Figure 3.3, integrated statistical data with data gathered through the thematic analysis of the interview transcripts (Teddlie & Tashakkori 2009). Fetters, Curry and Creswell (2013) describe the twofold advantages of integrating

quantitative and qualitative data; firstly, the qualitative data can be used to verify and validate quantitative results. This process, defined as triangulation, is explained in detail in section 3.4 below. Secondly, quantitative data can also be employed to explain and support the results from the qualitative data analysis.

Once integrated and analysed the coherence of the research findings, which includes both quantitative and qualitative results, may come into question. Fetters, Curry and Creswell (2013) propose three possible outcomes to quantitative and qualitative data integration as follows.

- **Confirmation**

  Confirmation of data takes place when the quantitative and qualitative data confirms the results of each data type. This confirmation leads to results with more credibility as the conclusions were drawn from multiple data sources.
- **Expansion**

  Data expansion comes about when the data sources expand the results from the other data source. This normally happens through expanding the results or providing complementary data to the original data.
- **Discordance**

  Fetters, Curry and Creswell (2013, p. 2144) explain discordance as findings which are 'inconsistent, incongruous, contradict, conflict, or disagree with each other'. However, there are still some options for reporting when discordance occurs, either more data is collected, or their existing data is re-analysed or the methodology is checked for an explanation of the results.

The literature (Brannen 2017; Fetters, Curry & Creswell 2013) shows that integration can occur at three levels of the research process: (i) the research design level, (ii) data collection and analysis method level, and (iii) interpretation and reporting level. Each research design level is explained in more detail below.

- Firstly, for integration at the research design level a parallel qualitative and quantitative data collection research design was used. The integration process starts after the data collection has been done and processed whereby the data was analysed separately and then integrated.

- Secondly, integration can also occur through linking the data collection and analysis methods employed by the researcher. This data collection integration is explained in section 3.1.9 below.
- Lastly, integration can occur during the data interpretation and reporting phases of the research. This integration is explained in Section 3.1.10, which covers Step 10 of the research process; analysing the data, below.

The data sources used in the research design are discussed next.

3.1.6 Step 6: Data sources

Before this study's research can be fully explored the data collecting methods and instruments used as well as the properties of the data must be clearly defined. Sources of data can be divided into two main groups: primary data (such as questionnaires and case studies), and secondary data (such as books, or electronic articles written by other researchers for a primary purpose). For the purposes of this study both sources were used with certain advantages and disadvantages as described below:

- **Advantages of secondary data**
  - Secondary data collected by another researcher, and implemented as cited data in current research (Johnston 2014) is a valuable tool for both qualitative and quantitative research. The background data mined from secondary sources will lay the foundation for a research project and raise the research questions and possible validation methods for the results of the study to be undertaken. In terms of this current study, a literature review helped guide the survey design and set the researcher on the right path to analyse the questionnaire and case study results.
  - Two other advantages of secondary data are its convenience and cost effectiveness since the data has already been compiled and further allocation of financial or time resources are not required (Johnston 2014, Schlomer & Copp 2014).
  - Another advantage, especially in computing, is that it allows researchers to complete and produce findings of their research faster in a field which is constantly and rapidly evolving (Johnston 2014). In this study, the secondary data collected was found in previous dissertations, articles from peer-reviewed journals together with books applicable to the research problem which were reviewed in Chapter 2.

- **Advantages of Primary data**
    - To answer the research questions of this study, however, primary data was needed that was not found in secondary sources. This primary data was collected personally by the researcher by a combination of qualitative and quantitative data collection methods. These two data collection methods and the instruments used are described below.

3.1.6.1 Quantitative data collection through survey based design

Survey based design is a study within quantitative descriptive approaches where a small group of people (i.e. a sample) are surveyed by the researcher. These survey results can then be used to extrapolate trends in the behaviour or viewpoints of a larger group of people (i.e. a population). The sample must be willing to communicate the data and are presumed to be representatives of the larger area of research for which the researcher needs to provide a description (population validity). In such a design, questionnaires are commonly used as instruments of data collection.

The questionnaire can consist of either open-ended and closed-ended questions, or both. When making use of open-ended questions the survey participants have no obligation to answer in a specific way and can simply state their thoughts. Closed-ended questions force the participants to choose a response from a pre-existing list of response options. In this case the researcher implemented closed-ended questions to limit confusion and allow for better data analysis.

- **Advantages of survey-based research design**

Some advantages to survey-based design are:

- Surveys are an easy and efficient method for collecting information from many people.
- In terms of this study, a survey methodology provided the support needed to examine multiple subjects through closed-ended questions because they delivered results which were easy to evaluate and analyse (Salkind 2010).
- Gaining an insight into the current use of Email and Twitter from multiple sources is also advantageous for answering the research questions.

- A questionnaire also allows for large amounts of data to be collected in a short period of time.

However, questionnaires require various management strategies. Table 3.1 shows the different advantages and disadvantages to each questionnaire management strategy.

Table 3.1. Advantages and disadvantages of questionnaire management strategies

Questionnaire management		
	Advantages	**Disadvantages**
Mail	Participants can complete it at their own convenience	Participants cannot clarify questions or response options
	Convenient and low cost	The researcher has no control over who completes the questionnaireand under what conditions
	Sampling possible across wide geographic area	Low response rates
		High risk of non-response bias
Telephone	Participants can clarify questions or response options	Bias arises when interviewer behaviour affects participants' reponses
	More cost efficient than in-person interviews	Not representative of general population as not everyone has access to a telephone or some may screen calls from unknown sources
Electronic	Questionnaires can be more complex, interactive and data rich	The researcher cannot control the conditions under which the questionnaireis taken
	Data collection is inexpensive	The researcher cannot control who completes the questionnaire
	Sampling across a virtually unlimited geographic area	Initial setup costs can be high
	No manual data entry as data sets are automatically created	Not representative of general population as not everyone has access to the Internet
Personal	More control	Interview bias could be a potential problem.

	High participation and completion rates	Administration is expensive
	Interviewer can react to participants' non-verbal communication	
	Participants can clarify questions or response options	

Given the advantages of a personal approach to management and the various disadvantages associated with other options as indicated in Table 3.1, this researcher used a questionnaire with a personal approach to manage the questionnaire distribution and data collection. The advantages of high participation and completion rates and the ability of participants to ask the researcher directly to clarify questions or response options, therefore, outweighed the potential disadvantages of interview bias and the expensive administration of the personal approach. Some of the main disadvantages of the survey-based research approach are described below.

- **Disadvantages of survey-based research design**

  The main disadvantages are:

  - A possible challenge for using questionnaires as the data collection method is about truthfulness. Questions which are sensitive or questions which participants feel might place their organisation in a bad light might not get truthful responses.
  - Another common challenge in survey research is representation. A sampling strategy is not enough to create an accurate representation of the participants since those included in the survey may differ from those who did not give their consent. This means that the insights gained though the survey might only apply to the individuals like the participants and not to individuals more like those who did not give consent (Salkind 2010). This might give a skewed view of how Email and Twitter have been used in the organisation thus distorting the conclusions drawn from the study.

3.1.6.2 Qualitative data collection through case study based design

The other instrument used was a case study. This method was chosen as it helps to acquire in-depth knowledge from participants (De Massis & Kotlar 2014). The case study design allowed this researcher to gain an overview of a complex situation and the effects of its implementation on the organisation (Ghauri 2004). It was advantageous to gather the details for why Twitter was used, which specifically helped to find answers to the research questions posed.

- **Advantages of case study research design**

  Further advantages for choosing case studies are as follows:

  - The case study design allows future researchers to gain insights for new ideas which might lead to further hypotheses for testing at a later stage.
  - Case study design is also most appropriate for enquiries of an exploratory nature. A case study works well when a researcher wants to understand processes and get close to the participants in their local environment. Exploration of the research problem area holds rich data for valid answers to the research questions.

- **Disadvantages of case study research design**

  As with any research strategy some disadvantages are present in case studies and these challenges need to be weighed against the possible advantages.

  - In this study it was difficult to generalise the data collected through the case study research method to a greater population.
  - Case studies are also driven by only one experimenter or researcher collecting the data, thus the results of the study can be skewed by data collection bias.

This being said, it is believed that the combination of the two methods described above was the most appropriate for this research endeavour as it allowed for a successful answer the research questions posed.

3.1.7 Step 7: Sampling plan

The points below describe the sampling plan used in this study. As indicated by Robinson (2014) the process commences by determining the target population after which the sampling method is chosen. This is followed by the breakdown of the sample size used in the research, and then showing how the data is to be gathered from this selected sample.

- **Target population.** Firstly, the target population can be defined as the total group of individuals from which the sample can be drawn (Ritchie, Lewis, Elam 2013). For this project, it included all small businesses in South Africa but due to limitations, such as time and money, all businesses were not accessible for this research.The study population was then defined as the accessible population or the businesses selected for the study. This selection is in line with the research problem and for this research endeavour it included all 440 000 (TIPS 2017) small businesses in the Western Cape which was also the best location for the researcher to conduct the study. A sampling frame used background information to select a sample which included individuals or institutions in the population eligible for sampling (Ritchie, Lewis & Elam 2013).

- **Sampling method.** Secondly, a perfect research scenario would include the target population as a whole, but it was not possible in this study due to size and cost. The alternative was to employ a convenience sampling technique for the quantitative research and a purposive sampling method or qualitative research (Etikan, Musa &Alkassim 2015).
    - In quantitative research, a convenience sampling method is a form of non-probability sampling where the driving factor in selection is convenience for the researcher in terms of accessibility and vicinity (Palinkas et al. 2016). Non-probability sampling is sampling done without the use of random selection methods whereby the researcher can select individuals or institutions because they are available, convenient and represent some attributes important to the study (Leech & Onwuegbuzie 2007).

    - In qualitative research, however, multiple sampling strategies are available to the researcher. The samples drawn in this study used a purposive sampling strategy or a non-probability sampling method whereby the participants chosen needed to fit a particular profile. This sampling method is recommended when dealing with qualitative research (Palinkas et al. 2016).

- **Sample attributes and sample size.** Thirdly, the attributes and size for the sample from which quantitative and qualitative data was collected is described and justified.
    - Quantitative research allows the researcher to determine the sample size exactly by calculating what must be done with the data collected. In this study, the

number of questionnaires was determined by the type of test the statistician conducted for each construct. The researcher distributed and collected 122 fully completed questionnaires from 122 employees and owners of small businesses in the Western Cape. Owing to the nature of this study, the aim was to provide context and thus the results were not intended to be generalised. As mentioned, the questionnaires were distributed personally by the researcher to ensure a response rate high enough to allow the data to be statistically analysed. As such, the possibility of the 'halo effect' was considered as a factor whereby the interviewee could try to please the researcher with their answers because they are in awe of the researcher's status (Skinner 2013).

- Qualitative research, on the other hand, poses a bigger challenge when it comes to determining sample size as it is much more difficult to quantify. Hulley et al. (2013) describe an adequate sample size as the number that will allow valid inferences to be made about the population. In this research study, however, the main aim is to understand the complex relationships and human interactions with Twitter rather than obtain data for the research results to be generalised. In qualitative samples, 'adequate sample size' is normally small because the data generated must be manageable to analyse effectively (Wilmot 2005). Blanche et al. (2006) recommend that the sample size for this method of data collection should be between 10 and 20 candidates. This recommendation is supported by Baker, Edwards and Doidge (2012) who prescribe between 12 and 60 candidates to investigate perceptions of a specific phenomenon, with the caveat that the researcher interviews each candidate more than once. In this study, therefore, focussed or semi-structured interviews were conducted. The Wesgro Cape Town and Western Cape Research (2016) Report state the City of Cape Town contributes 70.72% of the GDP of Western Cape. The largest sector for the city includes the business services industry. Evangelista, Lucchese and Meliciani (2013) describe the business service sector as one that allows other businesses to be more effective in production activities. As such, the case study was conducted at three small businesses located in this business services sector of the Western Cape. These businesses were chosen because they use Email as their main knowledge sharing and communication tool. As such, they provided access to information-rich cases which deliver the greatest insight into the research question − a suggestion made by Palinkas et al. (2016).

Two interviews per participant were conducted and 15 participants were interviewed in total (5, 7 and 3 participants were interviewed in the three businesses respectively). The 'halo-effect', as described above, was considered by maintaining a non-judgemental position that did not influence the flow of the interview (Holloway & Fulbrook 2001, p. 548). The literature (Blanche et al. 2006; Baker, Edwards & Doidge 2012) shows that there is no accepted formula to determine sample size within the qualitative research strategy, but the sample size should be sufficient that it ensures, even with more samples, no new trends or relationships can be found by the researcher. This point is defined as theoretical saturation (Lawrence & Tar, 2013).

Sample size was also partly constrained by factors such as time, budget and personnel (Suresh & Chandrashekara2012). Given these constraints, it was not considered feasible to conduct and analyse the data obtained from more interviews.

Palinkas et al. (2016) also state that the data sources available to the researcher should deliver information-rich data for the research question posed. In this study, 15 data sources accomplished this goal and a larger sample size was not considered to add new dimensions to the study.

- **Sample sourcing**
  - Lastly, after the sample attributes and size have been established the researcher collects the data from the potential participants identified. This data collection plan and process is explained in the sections below which describe the researcher's instrument plan and data collecting (sections 3.1.8 and 3.1.9 respectively).

3.1.8 Step 8: The instrumentation plan

Data was gathered concurrently by using a combination of questionnaires and interviews. Figure 3.4 provides an overview of the approach used.

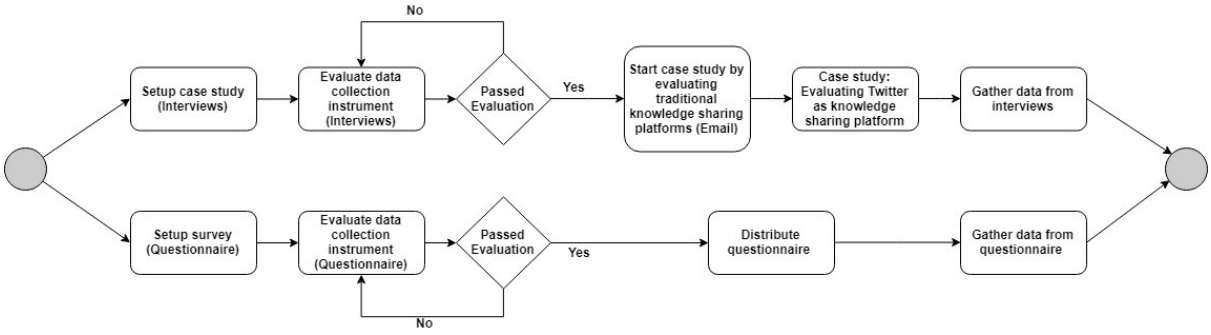

Figure 3.4. The data collection method

It can be seen in Figure 3.4 that the researcher started by creating and setting up the data collection instruments (the case study and questionnaire) for evaluation. The questionnaire was evaluated by the statistician for its viability and the case study design was implemented as a pilot study. The questionnaires were then distributed to evaluate traditional knowledge sharing platforms (Email) simultaneously with the evaluation of the case study launch of Twitter as a knowledge sharing platform. Lastly, the data from both these instruments, interviews and questionnaire, were gathered. In the discussion below the researcher presents each data collection tool in more detail.

- **Survey based research questionnaires**

  To ensure timely management, a pilot questionnaire was not conducted to increase the validity and reliability of the study. The constructs employed in the questionnaire were taken from previous studies by Saeed, Sinnappan and Markham (2012) and Malhotra and Galletta (1999). The constructs were evaluated through Exploratory Factor Analysis (EFA) which is defined by Preacher, et al. (2013, p. 29) as: 'a method of determining the number and nature of unobserved latent variables … to explain the shared variability in a set of observed indicators'. As every construct was measured by multiple items multiple Likert scales were used to measure each construct to uphold validity and reliability (Cheung, Chiu & Lee 2011). These claims were also collaborated through working with the statistician. The questionnaires were constructed using Kwiksurveys (www.kwiksurveys.com) which then generated a printable .pdf (Portable Document Format) document for physical distribution. The questionnaire used in this study is attached as Annexure L.

- **Case study based research**

A case study supported the data from the questionnaire as the other data collection instrument. This made sense because of the amount of detail it allowed the researcher to capture. As with all data collection methods, case studies do pose some disadvantages such as the fact that they tend to be perceived as not being thorough enough thus causing generalizations which are considered to have poor credibility.

The case study was set up to determine the knowledge sharing practice within the chosen organisations using their own traditional knowledge sharing platforms (Email) as well as an augmented knowledge sharing approach using Twitter as the platform.

The Twitter knowledge sharing model used in the case study is shown in Figure 3.5.

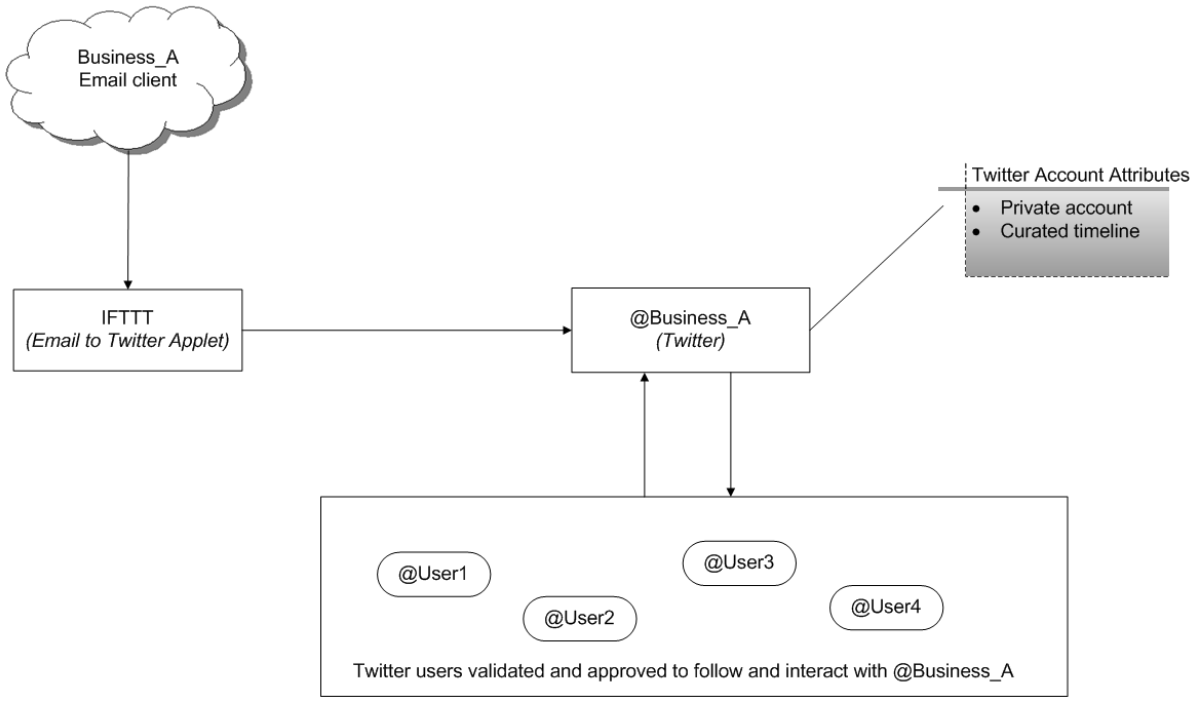

Figure 3.5. Proposed Twitter knowledge sharing model

In Figure 3.5 the proposed Twitter knowledge sharing model for the case study illustrates how Twitter could be integrated into the workflow of a small business to facilitate knowledge sharing. The model was used in the three businesses involved in the case study. To further facilitate the use of Twitter with the businesses, the If This Then That (IFTTT) (https://ifttt.com/) service was employed (described by the company IFTTT Inc. 2018) as a free service to help its users do more with their applications and devices. The system uses simple drop-in functions called 'Applets' to bind services together and

perform user-defined functions. In this case, an applet was created which posted the body of an Email to the business's Twitter account when an Email was sent to a specific Email address. This means users could simply include the Email address, for example, *'Business_A@gmail.com'* in their mail (via inserting this Email address in the 'to', 'cc' or 'bcc' fields) and the IFTTT service then automatically adds this Email to @Business_A's Twitter timeline as shown in Figure 3.5 above.

Figure 3.5 also shows the possible interaction paths which can be taken by 'outside' Twitter users (@User1, @User2, etc.) as the business's Twitter account (@Business_A). The business's Twitter account (@Business_A) was also created so that it is a private account, thus outside users could not find the account without @Business_A's permission. This vetting process ensures that the timeline created on @Business_A's Twitter timeline was curated by the business.

This researcher included three businesses (as described in section 3.2.7. above) in the study to allow for a comparative case study approach. Time was split between the traditional platform (Email) in September 2018 and Twitter in October 2018. Once both time periods had elapsed, the data from both could be evaluated and compared to answer the research questions at hand.

- **Interviews**

During the case study, data were collected through interviews (as introduced in section 3.2.7 above) conducted after each phase of the case study. The dates on which these interviews were conducted may be seen in the attached Annexure H. The interview questions were created to allow the researcher to map the answers received to the Uses and Gratifications Theory (UGT). The UGT, as introduced in section 2.11 of Chapter 2, finds the reasons as to why an individual will specifically go to media platforms to consume that platform's content to be gratified on some level (Whiting & Williams 2013). To this end the researcher posed the following questions, adapted from Sumbo (2015), in regard to the use of Email and Twitter as a knowledge sharing and collaboration tool.

- Is there a **need** to use the platform?
- **How** is the platform used?
- What are the **advantages** or the **gratifications** experienced in using the platform?

- What are the **disadvantages** or the **negative effects** experienced in using the platform?

A pilot study was conducted to ensure the research process for gathering the qualitative data was sound and fitting. The pilot study also allowed the researcher to gain valuable experience in conducting academic qualitative research. The combination of these factors increased the validity of this study (Riutta 2015).

Within the realm of qualitative research, the use of interviews as a tool to gather data is common (Sumbo 2015). In this case, the researcher used a semi-structured interview. For this research endeavour the researcher conducted two interviews per participant and interviewed 15 participants in total (3, 5 and 7 in the three businesses respectively). These were conducted in person with the interviewee. The transcripts of these interviews are attached to this study as Annexure A. Section 3.1.7 above specifies how the sampling was done and how the participants were chosen.

The purpose of a semi-structured interview is to obtain 'elaborate responses' from the subject via the use of a line of questions shaped by topics that have been determined as relevant by the researcher (Qu & Dumay 2011, p. 246). This interview style is popular because it has some undeniable advantages such as:

- flexibility: it can be adapted to fit into any circumstance or situation;
- accessiblity and clarity: it is easy to understand what needs to be accomplished;
- access to the 'hidden facets' in the organisation (Qu & Dumay 2011, p. 246) and;
- answering questions in a way which is most comfortable for interviewees by using natural language to convey their thoughts and assisting the researcher to see the world through their perspectives.

The semi-structured interview was used as a data collecting tool because of these above-mentioned advantages. To facilitate this process, use was made of an interview guide for each interview (these are attached as Annexure F and Annexure G). The guide was used in conjunction with Myers and Newman's (2007) seven guidelines for a researcher to follow when conducting an interview with a qualitative research approach. These guidelines are as follows:

- **Guideline 1. Situating the researcher**

- This researcher has no professional connection with the businesses where the case studies were done. He did not, and will not benefit in any way by presenting them in a good light.

- **Guideline 2. Minimising social dissonance**
  - The term 'social dissonance' or 'social distance' is defined by Zurowski (2014, p. 2) as 'the discomfort or disutility of choosing an action different from others'. The social distance must be reduced to ensure that the researcher can solicit the best disclosure from the interviewee. In this respect, this researcher made an effort to introduce and meet the participants before the first interview. This casual meeting laid the groundwork to ensure participants were at least more comfortable with the researcher during the first interview.

- **Guideline 3. Representing a variety of voices**
  - Myers and Newman (2007, p. 5) warn against elite bias by stating that a researcher may mistakenly only do interviews with persons of 'high status' and thus will not understand the 'broader situation'. This problem was addressed by ensuring that employees were interviewed at various levels within the business and not only amongst the management levels.

- **Guideline 4. Everyone is an interpreter**
  - The researcher needs to be sensitive to the fact that the work needs to be interpreted by the interview subjects as well as by the target audience of the research. .

- **Guideline 5. Imposing the researchers' world view**
  - To prevent the researcher's world view being imposed on the interviewees, the use of 'unbiased leading questions' were included in the interview guide.

- **Guideline 6. Flexibility**
  - The researcher should remain flexible and improvise when necessary as the interviewee does not have any 'script' to follow. The researcher, therefore, allowed the interviewee's time to think and discuss the points on the interview guide.

- A semi-structured interview guide was used which allowed for 'reliable, comparable qualitative data' to be gathered (Cohen & Crabtree 2006, p. 1). For both interviews on Email and Twitter usage, guides were used (seeAnnexure F and G respectively).

- **Guideline 7. Confidentiality of disclosures**
  - This researcher undertakes to keep all data collected from questionnaires and interview recordings confidential and secure. The participants were given a letter to thank them for their participation and also provided with a summary of the results of the study.

Given this instrument plan from both the quantitative and qualitative aspects the next step explains the data collection and storage approach used.

3.1.9 Step 9: Collect and store data

After the instrumentation plan was developed and implemented, the collection of the data began. Ethical clearance was obtained on 26 June 2017, before data collection started. Permission was granted by the Ethics Committee to allow the researcher ethical approval for three years (Humans involved) under referemce number 027/WH/2017/CSET_SOC.

- **Methods**

  Curry and Creswell (2013) state that integration can occur through data collection by linking the methods used to collect the data. The researcher merged data through a statistical analysis of the quantitative data and a qualitative analysis of the textual data. The data collection methods for the quantitative and qualitative data are presented in the sections below.

- **Quantitative data collection**

  Once ethical approval was received, the researcher could start distributing and collecting the questionnaires from July to September 2017. The completed questionnaires were kept safely in the researcher's possession until the end of the collection period. The data from the questionnaires were then consolidated and coded. This coded data was sent, in Microsoft Excel spreadsheet format, to the statistician to

create a coding manual. The coding manual showed the questionnaire in the form of its questions and possible answers. The answers were accompanied by the codes the researcher used to identify each answer. The coding manual is attached to this study as Annexure B.

All physical copies of the questionnaires are kept by the researcher in a safe location in the researcher's home. The Microsoft Excel spreadsheet containing the questionnaire data is kept in a Dropbox account to which only the researcher has access.

- **Qualitative data collection**

The researcher adhered to the following principles to collect qualitative data through interviews.

The researcher identified possible participants and reached them via Email to send an explanatory statement with an invitation (Annexure C). Then the consent form (Annexure D) was sent to the three businesses which accepted the initial invitation. The explanatory statement included the specifics of what the researcher wanted to do, in terms of data collection and time. The consent form allowed the participant the opportunity to withdraw from the study should he/she wish to do so.

The researcher scheduled three meetings at each business (see Annexure H for the exact dates of these meetings). The first meeting explained the study as a whole and the way Twitter would be introduced into the business. The second was to interview the businesses on their use of Email to establish how it was being used in the businesses. Lastly, after one month of Twitter usage, the researcher interviewed all the subjects again about how they were using Twitter. The interviews were all done at the businesses premises in a secluded, private office so that the audio recording device could be used. Notes were taken by the researcher during the interviews for important details to ask further specific questions. The researcher did not start with data collection before a signed consent from was returned from the businesses.

A cellphone was used to record all interview sessions. The participants were not intimidated by this and did not seem uncomfortable with having the interviews

recorded. All interviews were transcribed using f4transkript (https://www.audiotranskription.de/english/f4). F4transkript outputs a Rich Text Format (.rtf) document which allowed the researcher to format the transcription for easy reading and analysis. The Rich Text Format (.rtf) document was accessed using Microsoft Word. The exact time of each interview session is attached as Annexure H.

All transcriptions and recordings are kept by the researcher in a Dropbox account and hardcopies are kept in a safe location in the researcher's home.

3.1.10 Step 10: Analyse the data.

As explained above, the research strategy provided a mixture of quantitative and qualitative data. According to Curry and Creswell (2013) integration of qualitative and quantitative data can be done through three approaches:

(i) integrating through narrative;
(ii) integrating through data transformation; and
(iii) integrating through joint displays.

For the purposes of this research project the researcher used (i) 'integrating through narrative', an approach whereby the qualitative and quantitative findings are reported in a single report. This falls into the category of a contiguous approach in that while the findings were reported in a single report (this study) they were also presented in multiple sections. The data analysis methods for the quantitative and qualitative data are presented in the sections below.

- **Quantitative data analysis**

  The quantitative data analysis is presented in Chapter 4 of this study by using the statistical facilities provided by UNISA. The statistician did the following analysis on the coded questionnaire data through the use of four distinct sections (see the structure also in Chapter 4 of this study).

  - Firstly, the descriptive statistics of the biographical variables and other descriptive statistics of the Likert Scale questions were calculated for each questionnaire item.
  - Secondly, the statistician calculated scores for each construct by calculating the average of the questions that make the construct format. Then this was followed

by the mean and standard deviation for the construct made up of these questionnaire items. This was done for all the questionnaire items; both Email and Twitter. Descriptive statistics of the interval variables were used to report the mean and standard deviation. This allowed the most generally given answer to each questionnaire item to be shown to construct the general tendency.

- Thirdly, paired T-tests were done, and the results allowed for a direct comparison of the constructs of the two platforms (Twitter and Email). This allowed for research questions (RQ1 and RQ2 as posed in section 3.2.2 above), to be answered. Then a presentation of the multivariate correlations (Spearman ρ) followed for both Twitter and Email which allowed for the research questions (RQ3 and RQ4) to be answered.
- Lastly the reliability of the constructs was presented in the form of the Cronbach's alpha coefficient for each construct present in the questionnaire. After the quantitative data analysis was presented the results of the qualitative data collected were shown. This qualitative data analysis approach is explained in the section below.

- **Qualitative data analysis**

Thematic analysis was chosen for the qualitative aspect of this research endeavour. The results of this analysis are presented in Chapter 4 of this study Thematic analysis is described by Braun and Clarke (2006) as the process of identifying themes and patterns of behaviour. This procedure was chosen to perform thematic analysis (TA) of data for which six steps were followed as explained below.

- ***Familiarisation with data***

  During this familiarising process the interviews were read and transcribed together with relistening to the recordings of these sessions to gain a comprehensive understanding of the data. The transcriptions were lightly edited to correct sentences or irrelevant words or pauses in the conversation to identify any patterns that emerged. These edited transcripts allowed this researcher to get the information needed quickly as it read more easily.

- ***Generating initial codes***

After the familiarising process was considered complete, initial coded extracts could be identified. This was done by looking for items in the data which were considered interesting or meaningful.

- ***Searching for themes***

  Themes have been defined to be the result of the patterns formed from 'conversation topics, vocabulary, recurring activities, meanings, feelings, or folk sayings and proverbs' (Taylor & Bogdan, 1984, p. 131).Themes in this study were identified through looking at the codes generated in Step 2 above.

- ***Reviewing themes***

  After the themes were compiled, the reviewing process began. During this review the themes initially identified in Step 3 were combined, refined or removed by using a two phase approach. Firstly, the themes were checked against the coded extracts identified in Step 2 above. Secondly, the overall data set was compared to the themes which resulted in a thematic 'map'.

- ***Defining and naming themes***

  After the themes were reviewed, the themes and subthemes present in the data were further refined and defined. Descriptions were then generated for theme and sub-theme as well as definitions to explain the core value of each theme.

- ***Presenting the data***

  Lastly, the researcher reported these themes in detail with quotations from the transcripts which allowed for the research questions to be answered. This detailed report of the thematic analysis is presented in Chapter 4 of this study.

The section below describes how the findings of the research were presented in this study.

3.1.11 Step 11: Present the findings

To complete the research process, the research results and discussion of research findings are presented. In this study, this will follow in Chapters 4 and 5 respectively. To effectively triangulate between the quantitative and qualitative data collected the data presentation was structured in Chapter 4 in the following way:

- The results from the questionnaire quantitative data were presented first.
- This was followed by the summary of the themes identified through the thematic analysis of the interview transcriptions (qualitative data collected).

- Each theme was then presented and explained in detail together with the questionnaire result collaborating or contradicting the theme found. Within this discussion the link between the research objectives, as stated in section 3.3 above, and the results obtained were presented.
- By reaching the research objectives, this researcher was able to make recommendations and shed some light on the direction of future research in Chapter 5.

3.2 Validity

Validity can be described as the degree to which metrics or tools measure what they are intended to measure. The concept of validity has many dimensions, but for the purpose of this research endeavour only content and construct validity were used. Content validity will make sure that this researcher is involved in the current conversations of the subject area especially during the design phase of the project. Construct validity relates to whether the researcher measured what they thought they were measuring (Terwee, Mokkink, Knol, Ostelo, Bouter & de Vet 2012).

Data reliability is important but it cannot be considered sufficient on its own; a survey can only be considered reliable if it is also valid. Since the quantitative data was collected through a questionnaire, validity was ensured by:

(i) construction of the questionnaire in a clear and understandable way; and
(ii) clear directions to the participants who undertook to complete the questionnaire.

Given the qualitative aspect of the research, validity was also ensured by collecting the data in a precise and reasonable way (Bekhet & Zauszniewski 2012; Sumbo 2015). To this end, two approaches were used to ensure that validity was upheld by:

(i) using quotations from the interviews conducted to show that the interpretations of the qualitative data relates directly to the actual data collected; and
(ii) presenting the research findings to correlate with the chosen design, data collection and analysis approaches.

Validity of the research findings was achieved through triangulation. Farquhar (2012) states that the case study research approach has been shown to lack credibility, thus triangulation, was used to combat this.

3.3 Reliability

Reliability can be described as the extent to which an assessment metric or tool gives accurate and constant results. They can be considered reliable if the same result can be reproduced, given the same variables. Hasson and Keeney (2011, p.1695) define internal reliability's function as that which 'assesses the consistency of results across items within a test'. Internal reliability was used as a reliability measure and tested with a technique called 'item analysis' which produces Cronbach's alpha. Table 3.2 shows Cronbach's alpha value description.

Table 3.2. Cronbach's alpha value description

Cronbach's alpha value	Description
< 0.6	Unacceptable
0.6 - 0.8	Acceptable
> 0.8	Good

When the Cronbach's alpha value is above 0.8 a good reliability is indicated. A value between 0.6 and 0.8 indicates acceptable reliability and a value below 0.6 can be described as unacceptable. Cronbach's alpha was used in the quantitative aspect of this study to test internal reliability. The Cronbach's alpha value for each construct of the questionnaire is further explained in Chapter 4.

To ensure that the qualitative aspect of the research could be considered reliable, and that the validly and reliability could be gauged by external researchers, the following guidelines were adhered to:

- Provide support for the choices in research strategy and approach.
- Detail the data collection and analysis approaches used.
- Explain the thematic analysis approach of qualitative data analysis.

The researcher is responsible to ensure reliability and validity of the data and to enhance the credibilty of the findings (Gast 2014). However, although this researcher's data can never be said to be perfectly reliable it is possible to ensure a high standard of data. This was done through the use of reliable data sources, ensuring data capture methods were consistent and

effective, ensuring the data capturing process was clear, and lastly by verifying the data (Phelan & Wren 2006).

3.4 Triangulation

In qualitative research, triangulation is used to 'check and establish validity' of a study by validating the research objective from various perspectives (Saberi, Endut & Raub 2013, p. 4). This is done by using multiple approaches to analyse the research questions to get consistent results across multiple data sources or approaches.

In the literature (Lub 2015; Saberi, Endut & Raub 2013) it is argued that a researcher should use triangulation as it enhances the belief in the validity of the results obtained through the convergence of the two methods used. Using multiple data collecting instruments allowed the researcher to gather rich and comprehensive information.

Triangulation was also used for its two distinct advantages which were leveraged for this research endeavour. These advantages are described below.

- **Increased researcher confidence**
  Firstly, using multiple methods allowed the researcher to be more confident in the data and its findings.
- **Help divulge 'deviant' aspects within the research**
  Secondly, using different methods will, more often than not, produce some results which differ from the overarching methodology. The research problem at hand can also be explained with more detail as more data is gathered using multiple methods and data-gathering techniques.

As with any research strategy there are also disadvantages linked to using triangulation. These are:

- **Replication**
  This is normally included in the scientific progress; unfortunately replicating results of a mixed-method study is very difficult if not impossible (Watkins 2012).
- **Appropriate research questions**

To ensure that the use of multiple methods is supported the research questions need to be properly defined**.** If not, it may mean that one method could be more appropriate to use than those posed, and using triangulation will not lead to the desired results.

3.5 Ethical considerations

This study conforms to the UNISA research ethics policy (2014). Therefore, the following ethical considerations were adhered to:

- The researcher was granted ethical clearance from the School of Computing Ethics sub-committee at UNISA (see letter of approval in Annexure E)..
- Data collection activities only commenced after this approval was received from UNISA.
- The research also received written approval, in the form of consent forms, from the businesses where the case studies were implemented.
- The UNISA research ethics policy (2014) states the rights and responsibilities of UNISA in regard to authorising ethical research. These guidelines were integrated into the study to ensure the protection of the rights of the institution. They are:
  - ***Confidentiality***

    Anonymity was in place as there was no identifiable information on the questionnaire or any other related documents. No information that can be used to identify participants is needed on the questionnaires. Confidentiality was ensured in that the data collected were treated as confidential at all times.

    This study also does not include any information that can be used to identify the businesses or the employees involved in the case study. To this end, the names, and any other potential identifying information were changed and made anonymous.
  - ***Informed consent***

    Permission was gained from participants before they completed the questionnaire. The participants were also informed that the questionnaire was voluntary and that they could withdraw at any time without penalty. It was also ensured that participants understood the aim of the study, as well as the processes in place to collect data to avoid any cost/risk involved in the data collecting methods used. The businesses involved in the case study received a participant information sheet, permission letter for approval, and consent to participate in this study..

- ***Independence of researcher***

  The researcher is not employed or contracted by any of the businesses involved in the case study. The researcher did not, and will not benefit from any success or faults of this study.

3.6 Chapter Conclusion

Chapter 3 presented the scientific foundation used to conduct this study. The pragmatism paradigm was introduced and defended as the researcher's research paradigm choice. The research instruments and data collection methods are shown and the researcher details how these instruments are implemented and how the data is collected. The procedure used by the researcher to analyse and present the data is explained. The ethical considerations that need to be kept in mind for this study are also presented.

In Chapter 4 the researcher presents the research findings in regard to both the qualitative and quantitative aspects of this research endeavour.

CHAPTER 4: RESEARCH FINDINGS

This chapter explores the objectives of this study that lay the foundation for answering the research questions in Chapter 5. These objectives can be linked to the data analysis method used.

The objectives for exploring quantitative data were as follows:

- To discover the perceived usefulness (PU) and perceived ease of use (PEU) of Twitter and Email when it comes to knowledge sharing within the business;
- To find out the perceived usefulness (PU) and perceived ease of use (PEU) of Twitter and Email when it comes to knowledge sharing within the business;
- To explain how the subjective norms (SN) influence the behavioural intention (BI) to use Email;
- To explain how the subjective norms (SN) influence the actual use (AU) of Email;
- To uncover how subjective norms (SN) generated from the social aspect of Twitter influence the behavioural intention (BI) to use Twitter;
- To uncover how subjective norms (SN) generated from the social aspect of Twitter influence the actual use (AU) of Twitter.

The objectives for exploring qualitative data were as follows:

- To determine how are businesses using Twitter as knowledge sharing tool when compared to Email usage.
- To uncover the advantages of using the platform as knowledge sharing platform.
- To uncover the disadvantages of using the platform as knowledge sharing platform.

This chapter also records the data from the questionnaires that were used to explore the current landscape for Email and Twitter usage. It then shows how the business, to which Twitter was introduced, reacted and used the service. The demographic characteristics are presented first, followed by the analysis and brief description of the findings generated from the questionnaire data. A synopsis of the interview questions, followed by the themes and subthemes identified by this researcher within the interview responses is then described.

As mentioned above, for the purposes of this research, the qualitative and quantitative findings are reported in a single report. This falls into the category of a contiguous approach, however, the findings are presented in multiple sections.

This chapter is structured into two main parts; first the quantitative data is analysed and presented, followed by the qualitative data analysis.

4.1 Quantitative Data Analysis

In the sections below, the response rate and the participant's profile is presented with two attributes, namely; the participant's gender and education level. This is followed by the descriptive statistics gathered from the questions in the questionnaire. Lastly, the reliability in terms of the Cronbach's alpha for the questionnaire items is provided.

4.1.1 Response rate of questionnaire

From 1 July 2017 to 1 October 2017, three months for data collection of the questionnaires were allowed. The data collection only commenced after the ethical clearance was received on 26 June 2017 (see Appendix G) after which 122 questionnaires were distributed, in person by the researcher. This approach allowed the researcher to obtain a 100% response rate.

4.1.2 Participant profile of questionnaire

The participant profile was constructed through two variables; gender and level of education. These questions (3 and 4 respectively) fall under demographic information of the questionnaire (see Annexure A). Firstly the results of the gender distribution of the respondents show that 53.28% (n = 65) were female and 46.72% (n = 57) were male. This is indicated in Figure 4.1.

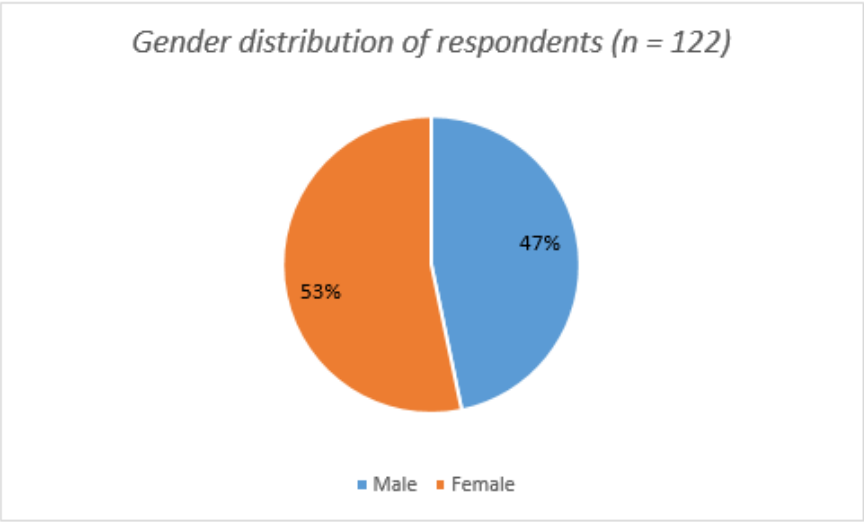

Figure 4.1. Gender distribution of respondents (n = 122)

This gender distribution for the participants of the questionnaire shown in Figure 4.1 aligns with the 2017 Western Cape demographic characteristics of formal sector male employment 56.2% and female employment at 43.8% (Western Cape Government 2017).

The distribution of the level of education of the respondents in Figure 4.2 shows most of the respondents fall into the category in which tertiary education has been completed (46.72%; n = 57). This is very closely followed by the category for completion of secondary school (45.08%; n = 55). The category for completion of primary school had six respondents (4.92%; n = 6) and lastly, the category for no formal education was indicated by four participants (3.28%; n = 4)

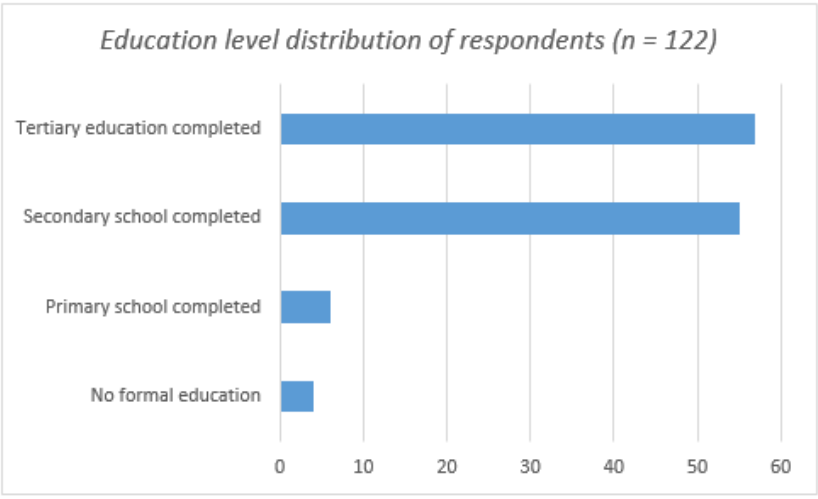

Figure 4.2. Education level distribution of respondents (n = 122)

The tertiary education group of the sample, as indicated in Figure 4.2, is in the majority (47%). This figure is higher when compared to the Western Cape demographic characteristics of formal sector employment which placed the tertiary education group at 23% in 2017 (Western Cape Government 2017). This lower percentage is more a reflection of the geographic spread of the 2017 questionnaires (mainly in Cape Town), rather than the effect of the data set of this study. The main aim of this study is to explore Twitter as a knowledge sharing platform and not to generalise from the data set as such.

The rest of the descriptive statistics are presented below in the order that the questions appeared in the questionnaire.

4.1.3 Quantitative descriptive statistics

Descriptive statistics are used to present large data sets in an efficient and meaningful way. The full descriptive statistics for all questionnaire questions is included in Annexure I.
The descriptive statistics for Twitter and Email (Sections B and C respectively) of the questionnaire used the five constructs presented below to test for each platform. This presentation gives the best overview of the data collected and helps lay the foundation for the analysis to follow.

4.1.4 Twitter (section B of the questionnaire)

In the text below the five constructs used to measure Twitter in terms of the TAM is discussed. These constructs are: i) perceived usefulness (PU), ii) perceived ease of use (PEU), iii) subjective norms (SN); iv) behavioural intention (BI) and v) actual use (AU).

4.1.4.1 Perceived usefulness (PU)

Firstly, Questions 1 to 6 of section B of the questionnaire focused on the Perceived Usefulness (PU) of Twitter as a knowledge sharing platform. Figure 4.3 shows the PU construct for Twitter was created by using the following questionnaire items. The results, in terms of *n* (number of respondents), can be seen below.

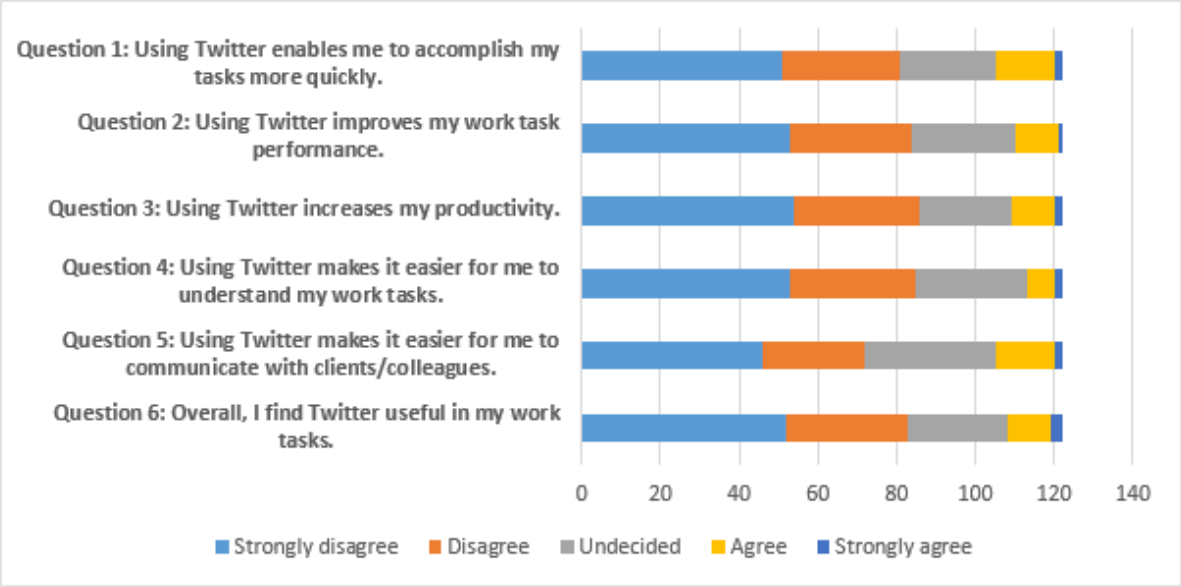

Figure 4.3. Items for PU construct of Twitter (n = 122)

A Likert scale was used for these questionnaire items with possible values that ranged from 1 (Strongly disagree) to 5 (Strongly agree). For Question 1, 41.8% (n = 51) of the participants strongly disagreed with the notion that Twitter enables them to accomplish their tasks more quickly. For Question 2, the participants (43.44%; n = 53) did not feel that work task performance improves with Twitter usage. In Question 3, the participants (44.26%; n = 54) indicated that Twitter does not increase their productivity. For Question 4 some 43.44% (n = 53) of participants, stated that using Twitter does not make it easier for them to understand their work tasks. When considering Question 5 in terms of using Twitter as communication platform 37.70% (n = 46) of participants indicated that using Twitter does not make it easier for them to communicate with clients or colleagues. The majority (68.03%; n = 83) of respondents either strongly disagreed (42.62%; n = 52) or disagreed (25.41%; n = 31) with the statement that Twitter is a useful tool for their work tasks (Question 6).

In terms of the concept of the PU of Twitter, the majority of the participants either strongly disagreed or disagreed with the statements in Figure 4.3. This researcher suggests this is due to the fact that Twitter is not as ingrained in the business world as other platforms and, as such, users do not seem to think Twitter is useful to them. Also, they have not had long exposure to the platform (as can be seen from the AU constructs in Figures 4.7, 4.8 and 4.9 below) and may not have had enough time to integrate Twitter into their workflow, which, if done, could boost their opinion of the perceived usefulness of Twitter.

Table 4.1 shows the mean and standard deviation for the PU construct of Twitter as a whole. This was calculated from the combination of the items as indicated in Figure 4.3.

Table 4.1. Mean and standard deviation for the PU of the Twitter construct (n = 122)*

Construct	M	SD
Twitter Perceived Usefulness	2.04	1.02

*Please note:

- The scale values range from 1 to 5. A higher score indicates a higher PU using Twitter.
- The M and SD has been rounded for clarity.
- n = number of respondents
- M = mean
- SD = standard deviation
- Q1 = First quartile
- Q3 = Third quartile

As Table 4.1 indicates, the participants in general did not perceive Twitter as being useful to them as a knowledge sharing platform. The mean is reported as 2.04 (SD = 1.02). The interquartile range (IQR) of 2 (Q3-Q1) indicates that the median is widely dispersed. This dispersion could indicate that participants had opposing views to the PU of Twitter as a knowledge sharing platform. Given the M of 2.04 for the PU construct for Twitter it can be assumed that the PU of Twitter is not very high for the participants in this questionnaire.

4.1.4.2 Perceived ease of use (PEU)

Questions 7 to 10 of section B focused on the Perceived Ease of Use (PEU) of Twitter as a knowledge sharing platform. Figure 4.4 shows the PEU construct for Twitter was created by using the following four statement/items in the questions. The results, in terms of frequency and percentage, can be seen below.

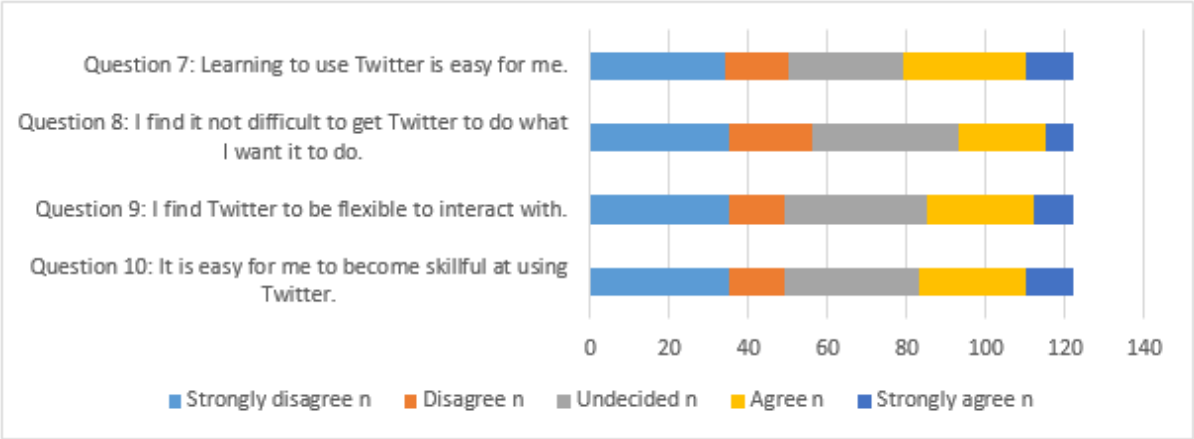

Figure 4.4. Items for PEU construct of Twitter (n = 122)

A Likert scale was used for these questionnaire items. The possible values ranged from 1 (Strongly disagree) to 5 (Strongly agree). However, whilst 27.87% (n = 34) participants disagreed with the notion (Question 7) that learning to use Twitter is easy for them, it should be noted that only 25.41% (n = 31) agreed with this statement while 23.77% (n = 29) of participants were undecided, and thus could be swayed in future to either agreement or disagreement. In Question 8, 28.69% (n = 35) of the participants indicated that it is not difficult to get Twitter to do what they want it to do. Again, a large number of the participants (30.33%; n = 37) were undecided. For Question 9, participants (28.69%; n = 35) indicated that Twitter is not flexible enough to interact with, while other participants (29.51%; n = 36) indicted that they were undecided. In Question 10, some participants (28.69%; n = 35) indicated that it is not easy for them to become skillful at using Twitter, whereas 27.87% (n = 34) participants suggested that they were undecided.

Figure 4.4, therefore, illustrates the PEU of Twitter was measured using four question statements as indicated above. This suggests to this researcher that the PEU of Twitter is promising for the future platform's use as there are some who are undecided and in the future they could agree with these statements. This then would translate into a tendency to agree to the overall PEU of Twitter. Again, this suggests that users have not had long enough exposure to the platform (as can be seen from the AU constructs in Figures 4.7, 4.8 and 4.9) and this may be the reason that these users tend perceive Twitter as not easy to use.

Table 4.2 shows the mean and standard deviation for the PEU construct of Twitter as a whole. This was calculated from the combination of the items as indicated in Figure 4.4.

Table 4.2. PEU construct of Twitter (n = 122)*

Construct	M	SD
Twitter Perceived Ease of Use	2.68	1.28

* Please note: The scale values range from 1 to 5. A higher score indicates a higher PEU was felt by respondents by using Twitter.

As Table 4.2 indicates, generally the participants did not perceive Twitter as being easy to use. The mean is reported as 2.68 (SD = 1.28). The interquartile range (IQR) of 2.75 (Q3-Q1) indicates that the median is widely dispersed. This dispersion could indicate that participants had opposing views to the PEU of Twitter as a knowledge sharing platform. Given the *M* of 2.68 for the PEU construct for Twitter it can be assumed that the PEU of Twitter is not very high for the participants. It is believed that this suggests the high number of undecided (scale value = 3) participants on the items above could be due to the fact that they have not used Twitter for long enough to have a well-defined opinion.

4.1.4.3 Subjective norms (SN)

Questions 11 to 14 of section B focused on the subjective norms (SN) of Twitter as a knowledge sharing platform. Figure 4.5 shows the SN construct for Twitter that was created using the item statements of this section of the questionnaire.

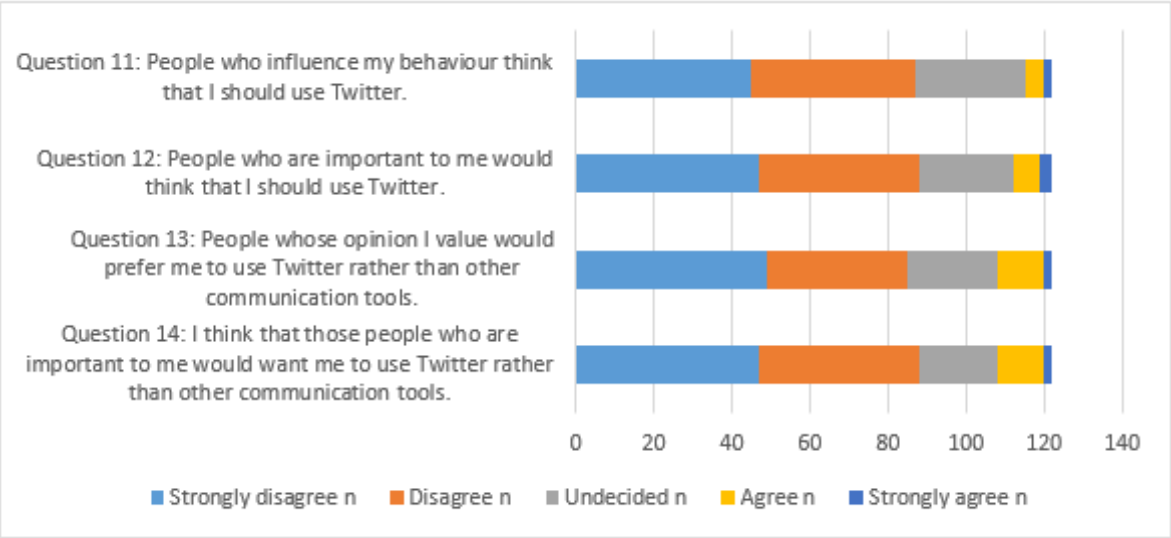

Figure 4.5. Items for SN construct of Twitter (n = 122)

A Likert scale was used for these questionnaire items. The possible values ranged from 1 (Strongly disagree) to 5 (Strongly agree). For Question 11, the overwhelming majority (71.32%; n = 87) of the participants indicated they did not believe people who influence their behaviour think that they should use Twitter. It should also be noted that only 22.95% (n = 28) of the participants indicated that they were undecided. For Question 12, the majority (72.13%; n = 88) of participants also indicated that they did not feel that the people important to them think that they should use Twitter, while 38.52% (n = 47) strongly disagreed and 33.61% (n = 41) disagreed. Whereas 19.67% (n = 24) were undecided.

For Question 13, when asked if people whose opinion they value would prefer them to use Twitter rather than other communication tools 40.16% (n = 49) of the participants strongly disagreed and 29.51% (n = 36) disagreed, while 18.85% (n = 23) were undecided. Moving on a bit further to Question 14, when asked if they think that those people who are important to them would want them to use Twitter rather than other communication tools, an overwhelming majority of 72.13% (n = 88) participants did not think so, whereas 16.39% (n = 20) were undecided.

Therefore, unlike the two constructs discussed above for PU and PEU, the Subjective Norms construct, measured by questions 11-14 (Figure 4.5) above, is much clearer. Here, the participants (40.16%; n = 49) indicated that people they consider important would want them

to use Twitter. This again suggests a reflection of the current business environment where Twitter is not seen as a business tool but rather a social media tool.

Table 4.3 shows the mean and standard deviation for the SN construct of Twitter as a whole. This was calculated from the combination of the items as indicated in Figure 4.5 above.

Table 4.3. SN construct of Twitter (n = 122)*

Construct	M	SD
Twitter Subjective Norms	2.01	0.97

*Please note: a higher mean score indicates a higher SN was felt by respondents using Twitter.

As Table 4.3 indicates, the participants in general did not feel that people who are important to them want them to use Twitter. The mean is reported as 2.01 (SD = 0.97). The interquartile range (IQR) of 2.81 (Q3-Q1) indicates that the median is dispersed. Given the *M* of 2.01 for the SN construct for Twitter it can be assumed that the SN of Twitter is not very high for the participants in this questionnaire. This shows that most participants did not feel that there is a social need or pressure for them to use Twitter and this, in turn, reflects the current stance of Twitter for the businesses from which the participants of the questionnaire were drawn.

4.1.4.4 Behavioural intention (BI)

Questions 15 to 17 of section B focused on the Behavioural Intention (BI) to use Twitter Figure 4.6 below shows the BI construct for Twitter which was created using the following questionnaire items. The results can be seen below.

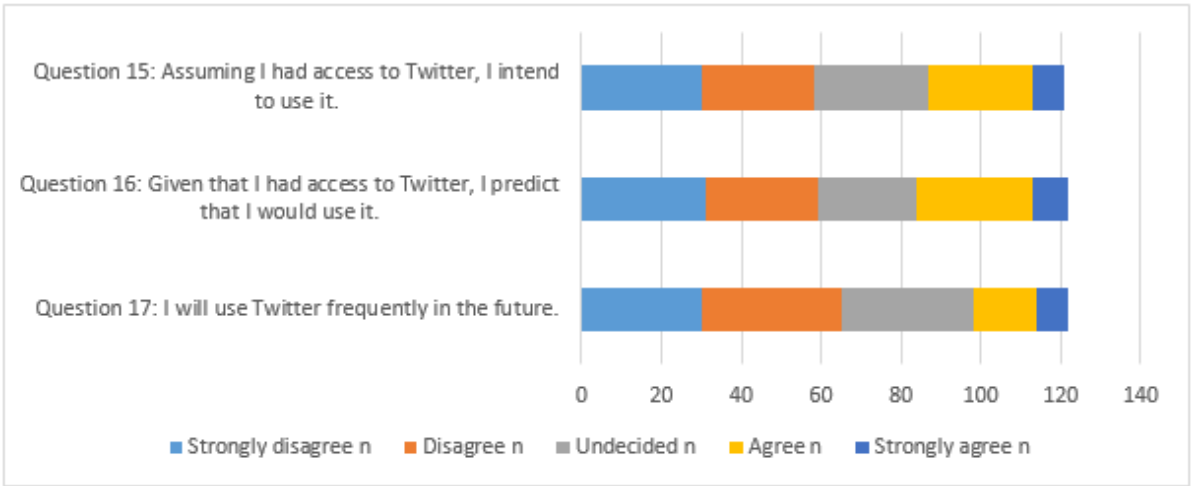

Figure 4.6. Items for BI construct of Twitter (n = 122)

A Likert scale was used for these questionnaire items. The possible values ranged from 1 (Strongly disagree) to 5 (Strongly agree). For Question 15, 21.49% (n = 26) of the participants indicated that if they had access to Twitter, they wouild intend to use it, others (23.97%; n = 29) were undecided. It should also be noted that in total, almost half (47.93%; n = 58) of the participants either strongly disagreed (24.79%; n = 30) or disagreed (23.14%; n = 28) with this statement. This means they do not plan or have an intention to use Twitter even if they have access to it.

This sentiment was echoed by the next item for Question 16. The majority (48.36%; n = 59) of the participants indicated, either by strongly disagreeing (25.41%; n = 31) or disagreeing (22.95%; n = 28) with the statement (see Figure 4.6) that they did not foresee that they would use Twitter if they had access to it. Other participants (20.49%; n = 25) were undecided, whereas 23.77% (n = 29) of the participants predicted that, given access to Twitter, they would use it.

When asked if they would use Twitter frequently in the future, only 13.11% (n = 16) participants answered in the affirmative, while 27.05% (n = 33) were undecided, whereas again the majority (53.28%; n = 65) indicated they would not use Twitter frequently in the future. Another 24.59% (n = 30) of the participants strongly disagreed with this questionnaire item, while 28.69% (n = 35) disagreed.

The BI to use Twitter shows that some participants indicated a willingness to use Twitter should it be available to them, although many indicated to the contrary. A substantial portion of participants were undecided and this suggests, given the right implementation of Twitter, that they could be convinced to change their opinion to agree or strongly agree. Shin and Kang (2015) found users of a technology platform may still intend to use a platform although they might not consider it easy to use. Thus people could be willing to use Twitter even if they perceive it not easy to use.

Table 4.4 below shows the mean and standard deviation for the BI construct of Twitter as a whole. It was calculated from the combination of the items as indicated inFigure 4.6 above.

Table 4.4. PEU construct of Twitter (n = 122)*

Construct	M	SD
Twitter Behavioural Intention	2.59	1.20

*Please note: a higher mean score indicates a higher BI was felt by the respondents using Twitter

As Table 4.4 indicates, the participants in general did not intend to use Twitter. The mean is reported as 2.59 (SD = 1.20). The interquartile range (IQR) of 1.71 (Q3-Q1) indicates that the median is widely dispersed. Given the *M* of 2.59 for the BI construct for Twitter leaning towards participants being undecided (option 3 being undecided on the Likert scale). This suggests participants do not totally negate the use of Twitter but they are not yet convinced that it is a tool which is needed. Again, this implies the current stance of Twitter for the businesses from which the participants were drawn, in that they have not been made aware of the possible advantage Twitter usage might bring.

4.1.4.5 Actual use (AU)

To measure the actual use (AU) construct of Twitter, three questions (18, 19 and 20) were included with the questionnaire. The results of these items are presented in Figures 4.7, 4.8 and 4.9.

Firstly, in Question 18 the participants were asked to indicate how many times they believe they use Twitter during a week. They were provided options ranging from ‘Not at all’ to ‘Several times a day’. The results can be seen in Figure 4.7.

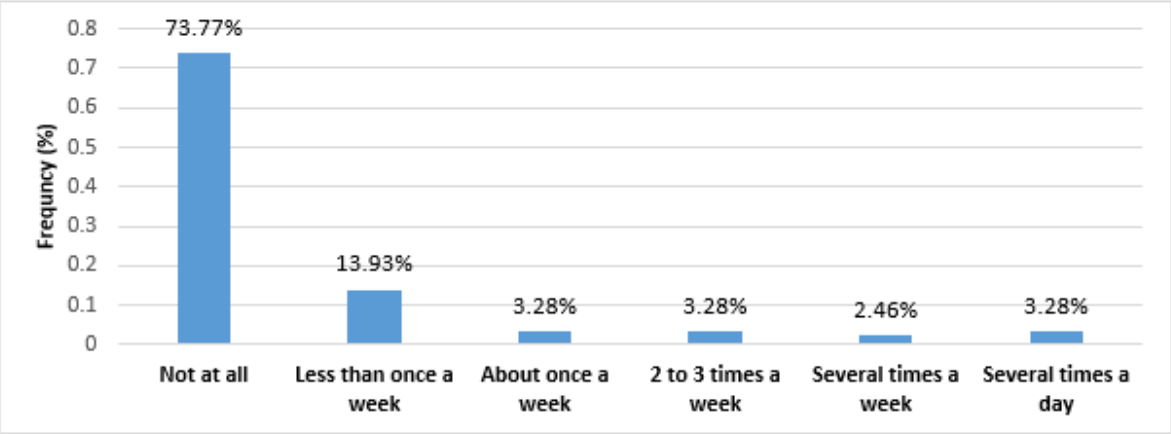

Figure 4.7. How many times Twitter is used during a week

The majority (73.77%; n = 90) of participants indicated that they did not use Twitter at all. In a further analysis there were 17 (13.93%; n = 17) participants who indicated that they used Twitter less than once a week while (26.23%; n = 32) participants use Twitter at least once a week. This indicates that the users do not consider Twitter an important part of their work flow and ties in with the assumption made, in Figure 4.3 and Figure 4.4 above, that because users are not spending a lot of time on Twitter, it adversely affects their PU and PEU of the platform.

This researcher believes these results, as indicated in Figure 4.7, confirm that the supposition (made in Chapter 3) was correct and that 73.33% (n = 90) of the participants do not use Twitter at all. Given this data, the research questions could not be fully answered without the qualitative aspect of this research.

Secondly, in Question 19, the participants were asked how many hours they believe they use Twitter every week. They were provided options ranging from ‘Less than one hour’ to ‘More than 25 hours’. The results can be seen in Figure 4.8.

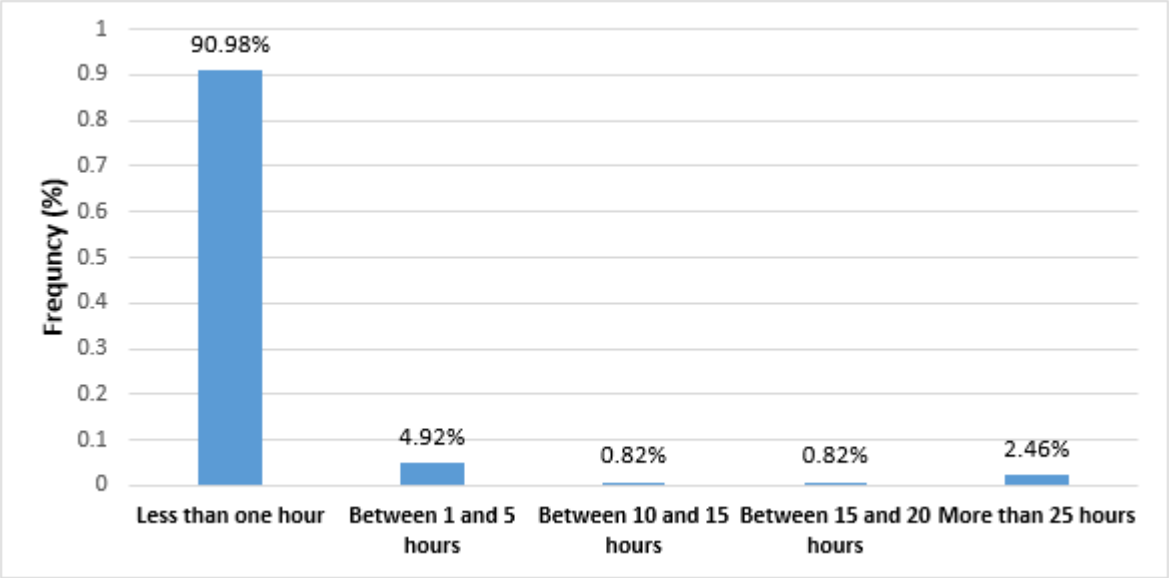

Figure 4.8. How many hours Twitter is used during a week

The overwhelming majority (90.98%; n = 111) of the participants indicated that they use Twitter less than one hour a week. There were six (4.92%) participants who indicated that they used Twitter between 1 and 5 hours a week. Only two participants indicated the use twitter between 10 and 15 hours a week (0.82%; n = 1) as well as between 15 and 20 hours a week (0.82%; n=1). Three (2.46%) participants indicated that they use Twitter more than 25 hours a week.

While the majority of the participants (73.77%) indicated (Figure 4.7) that they do not use Twitter regularly. Figure 4.8 also shows that users tend to spend only a little time on the platform since the majority of participants indicated their usage time to be 'Less than one hour'. Again this suggests an adverse effect on the user's PU and PEU of the platform, as indicated in Figures 4.3.and 4.4.

Lastly, in Question 20, the participants needed to indicate how frequently they use Twitter. They were provided options ranging from 'extremely infrequent' to 'extremely frequent'. The results can be seen in Figure 4.9.

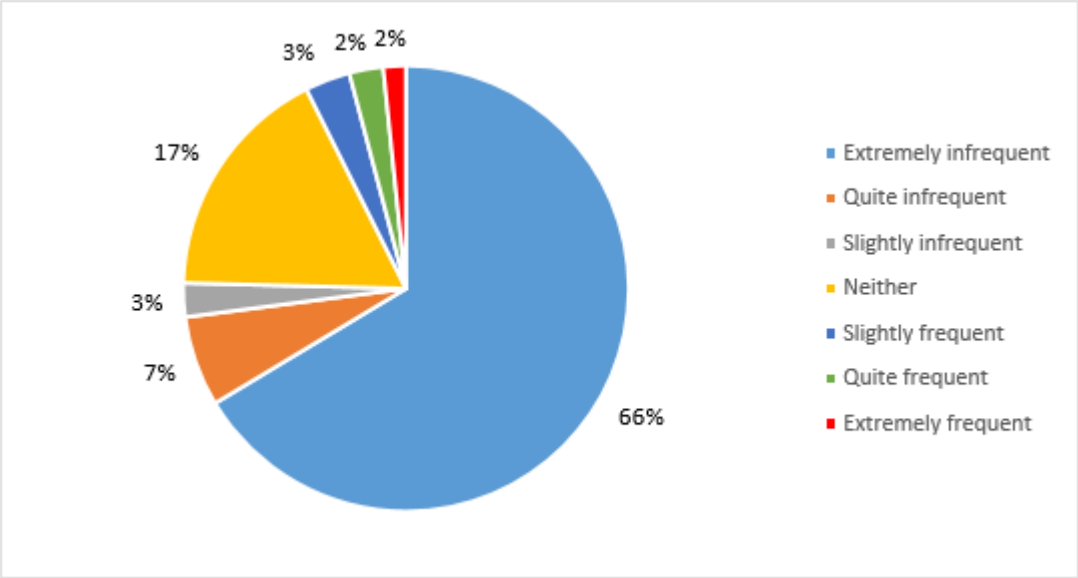

Figure 4.9. How frequently Twitter is used

The majority (66.4%; n = 81) of the participants indicated that they used Twitter extremely infrequently. Fewer participants (6.6%; n = 8) indicated that they used Twitter quite infrequently and 2.5% (n = 3) participants specified slightly infrequently. Therefore, the scales indicating frequent use were very minimal for the participants of this item of the questionnaire with only 1.6% (n = 2) of the participants indicating they use Twitter extremely frequently. Other participants 2.5% (n = 3) indicated they use Twitter quite frequently while 3.3% (n = 4) indicated slightly frequent Twitter usage, whereas 17.2% (n = 21) of the participants indicated no Twitter usage by selecting the 'neither' option provided.

In alignment with Figures 4.7 and 4.8, more than half (66.4%; n = 81) of the participants indicated that their use of Twitter is extremely infrequent while at the other end of the scale only 1.6% (n = 2) indicated extremely frequent usage. This is again indicative of the perception users have of Twitter and also the PU (see Figure 4.3) that they link to the platform.

Table 4.5 shows the mean and standard deviation for the AU construct of Twitter as a whole. It was calculated from the combination of the questionnaire items (17 to 20) presented above.

Table 4.5. AU construct of Twitter (n = 122)*

Construct	M	SD
Twitter Actual Use	1.61	1.17

*Please note: a higher mean score indicates a higher AU of Twitter

As Table 4.5 indicates, the participants in general do not use Twitter as a knowledge sharing platform. The mean is reported as 1.61 (SD = 1.17). Given the *M* of 1.61 for the AU construct for Twitter it can be assumed that the AU of Twitter is not very high for the participants in this questionnaire. This means that most participants do not use Twitter very frequently or at all. The researcher believes this speaks to the current stance of Twitter for the businesses from which the participants of the questionnaire were drawn. Therefore, this metric could change in future should Twitter be adopted and used constructively for a significant time in the business.

Now that the constructs for Twitter have been presented the researcher can introduce the constructs for Email usage. The sections below show the descriptive statistics for the Email usage constructs as given in the questionnaire.

4.1.5 Email (section C of questionnaire)

In the text below the five constructs used to measure Email in terms of the TAM is discussed. These constructs are: i) perceived usefulness (PU), ii) perceived ease of use (PEU), iii) subjective norms (SN); iv) behavioural intention (BI) and v) actual use (AU).

4.1.5.1 Perceived usefulness (PU)

Question 1 to 6 of section C focused on the Perceived Usefulness (PU) of Email as a knowledge sharing platform. Figure 4.10 shows the PU construct for Email was created using the following questionnaire items. The results can be seen below.

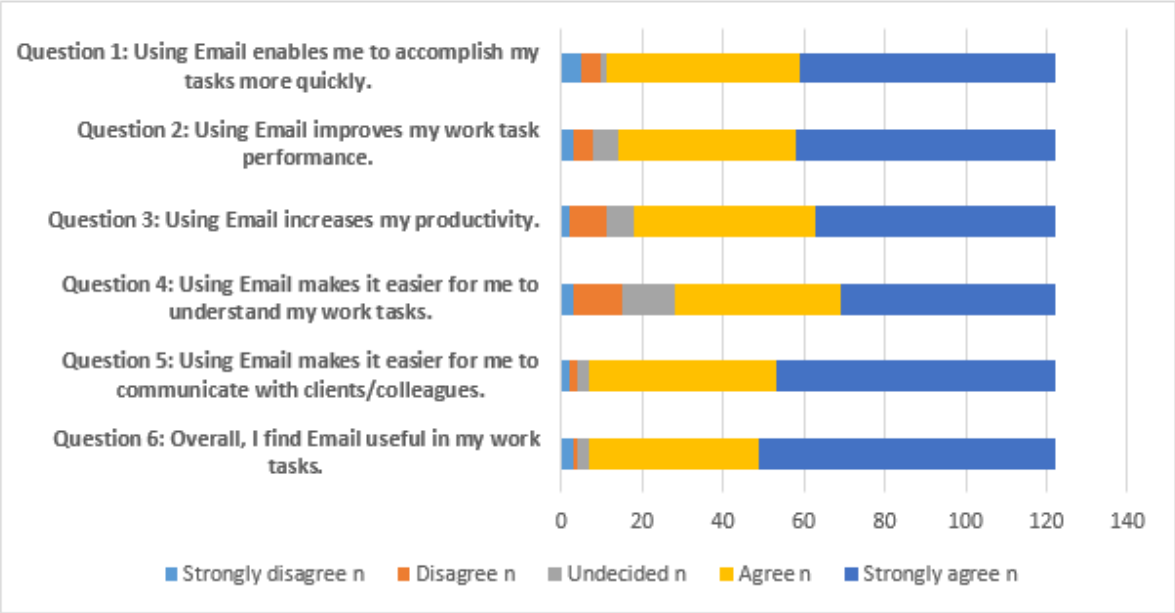

Figure 4.10. Items for PU construct of Email (n = 122)

A Likert scale was used for these questionnaire items. The possible values ranged from 1 (Strongly disagree) to 5 (Strongly agree). Asked whether using Email enables the participants to accomplish their tasks more quickly an overwhelming (90.98%; n = 111) of participants either strongly agreed (51.64%; n = 63) or agreed (39.34%; n = 48). It should also be noted that here only one participant (0.82%; n = 1) was undecided.

The majority (52.46%; n = 64) of participants strongly agreed with the item of Question 2; that using Email improves their work task performance. Fewer participants (36.07%; n = 44) agreed, whereas only 4.92% (n = 6) were undecided and 4.10% (n = 5) disagreed with this notion while only 2.46% (n = 3) strongly disagreed.

For Question 3, whether Email increases their productivity, 48.36% (n = 59) of the participants strongly agreed, while 36.89% (n = 45) agreed with this notion. This means overall the majority of the participants believe Email increases their productivity. However, a further 5.74% (n = 7) were undecided and 7.38% (n = 9) disagreed with this statement whereas only 1.64% (n = 2) strongly disagreed.

The item in Question 4 resulted in a majority of participants (43.44%; n = 53) who indicated that they strongly agreed that using Email makes it easier for them to understand their work

tasks. Whereas 33.61% (*n* = 41) agreed with this statement, while 10.66% (*n* = 13) indicated that they were undecided. Only 9.84% (*n* = 12) of the participants disagreed and even fewer (2.46%; *n* = 3) strongly disagreed.

For Question 5, the majority (94.26%; *n* = 115) of the participants either strongly agreed (56.56%; *n* = 69) or agreed (37.70%; *n* = 46) with the notion that using Email makes it easier for them to communicate with clients and colleagues. Only 2.46% (*n* = 3) were undecided. Of the participants only 1.64% (*n* = 2) indicated that they strongly disagree and 1.64% (*n* = 2) disagreed.

In Question 6, the majority 59.84% (*n* = 73) of the participants strongly agreed and 34.43% (*n* = 42) agreed that they find Email useful in their work tasks. Whereas 2.46% (*n* = 3) were undecided and 0.82% (*n* = 1) disagreed with this statement. Only 2.46% (*n* = 3) of the participants strongly disagreed.

Questions 1 – 6, as shown in Figure 4.10, investigated the participants PU of Email. As the results show, the majority of participants either strongly agreed or agreed with the statements. The researcher believes this is due to the fact that Email is the main communication and knowledge sharing platform in these businesses and, as such, the participants use of Email all day makes them perceive Email as very useful to them.

Table 4.6 shows the mean and standard deviation for the PU construct of Email as a whole. This was calculated from the combination of the items as indicated in Figure 4.10.

Table 4.6. PU construct of Email (*n* = 122)*

Construct	**M**	**SD**
Email Perceived Usefulness	4.31	0.84

*Please note: a higher mean score indicates a higher PU was felt by respondents using Email

As Table 4.6 above indicates, therefore, the participants generally perceived Email as being useful to them as a knowledge sharing platform. The mean is reported as 4.31 (SD = 0.84). The interquartile range of 1 (Q3-Q1) indicates that the mean is not widely dispersed. This small dispersion could indicate that participants had views which aligned with each other

when it comes to the PU of Email as a knowledge sharing platform. Given the *M* (average) of 4.31 for the PU construct for Email it can be assumed that the PU of Email is very high for the participants of the questionnaire. It should also be noted that fewer participants were undecided about the related questionnaire items (Figure 4.10) when compared to the same construct for Twitter as shown in Figure 4.3. This researcher believes this might be due to the fact that businesses have been using Email for much longer and, as such, are more certain about their perceptions of it.

4.1.5.2 Perceived ease of use (PEU)

Questions 7 to 10 of section C focused on the Perceived Ease of Use (PEU) of Email as a knowledge sharing platform. Figure 4.11 shows the PEU construct for Email was created using the following questionnaire items. The results can be seen below.

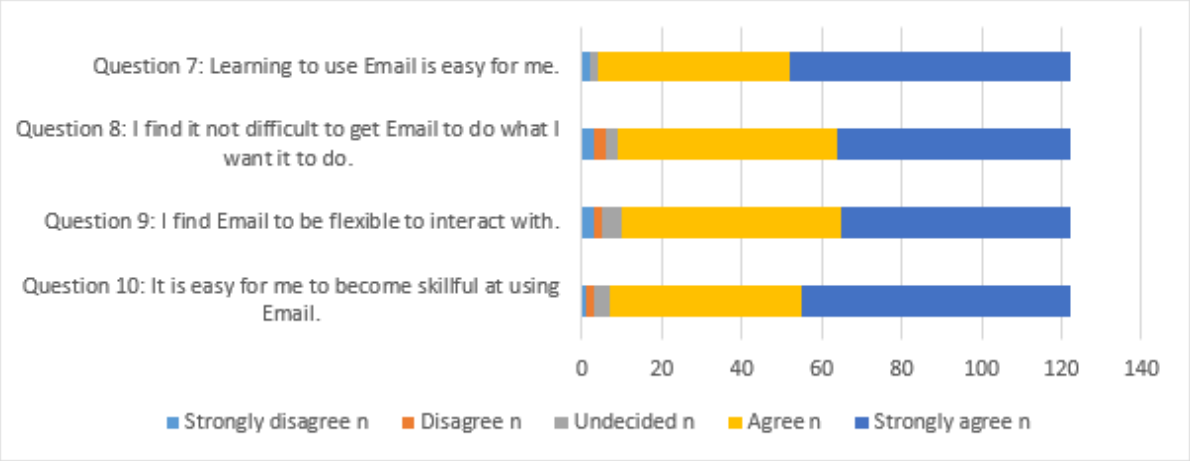

Figure 4.11. Items for PEU construct of Email (*n* = 122)

A Likert scale was used for these questionnaire items. The possible values ranged from 1 (Strongly disagree) to 5 (Strongly agree). As indicated in table 4.12, most participants indicated in Question 7 that learning to use Email was easy for them with 57.38% (*n* = 70) strongly agreeing and 39.34% (*n* = 48) agreeing. Only 1.64% (*n* = 2) of the participants were undecided and two (1.64%) strongly disagreed with this statement. In Question 8, the overwhelming majority of participants (92.62%; *n* = 113) also indicated that it is not difficult to get Email to do what they want it to do, while 47.54% (*n* = 58) strongly agreed and 45.08% (*n* = 55) agreed. Three (2.46%) participants were undecided, whereas 2.46% (*n* = 3) of the participants also disagreed and 2.46% (*n* = 3) strongly disagreed with this statement.

For Question 9, when asked if interaction with Email was found to be flexible, 46.72% (*n* = 57) of participants strongly agreed with this statement with 45.08% (*n* = 55) agreeing, while five (4.10%) participants were still undecided. Only 1.64% (*n* = 2) and 2.46% (*n* = 3) of the participants disagreed and strongly disagreed respectively with this statement. Lastly, for Question 10, a majority of 54.92% (*n* = 67) participants strongly agreed that it would be easy for them to become skillful at using Email, while 39.34% (n= 48) agreed and 3.28% (*n* = 40) were undecided. Only three (2.46%) participants did not agree with this with 1.64% (*n* = 2) disagreeing and one (0.82%) participant strongly disagreeing.

Figure 4.11, therefore, shows the four questions used for the PEU construct of Email usage show an overwhelming result for the participants who either strongly agreed or agreed with the statements. The researcher thus subscribes to the theory, as set out by Hajli (2013), that because the users are engaging with the platform so often they have more trust in it and, as such, perceive the platform as easy to use.

Table 4.7 shows the mean and standard deviation for the PEU construct of Email as a whole. This was calculated from the combination of the items as indicated in Figure 4.11.

Table 4.7. PEU construct of Email (*n* = 122)*

Construct	**M**	**SD**
Email Perceived Ease of use	4.40	0.69

*Please note: a higher mean score indicates a higher PU was felt by respondents using Twitter

As Table 4.7 indicates, the participants generally perceived Email as being easy to use. The mean is reported as 4.40 (SD = 0.69). The interquartile range of 1 (Q3-Q1) indicates that the mean is not widely dispersed. Given the *M* (average) of 4.40 for the PEU construct for Email it can be assumed that the PEU of Email is very high for the participants of the questionnaire. It should also be noted that fewer participants were undecided about the related questionnaire items (Figure 4.11.) when compared to the same construct for Twitter as shown in Figure 4.4. This might be due to the fact that businesses have been using Email for much longer and, as such, participants are certain of their perceptions of it as they are very comfortable with the system and see it as easy to use even though this may not be the case for new users of the system (Van Raaij & Schepers 2008).

4.1.5.3 Subjective norms (SN)

Questions 11 to 14 of section C focused on the Subjective Norms (SN) of Email as a knowledge sharing platform. Figure 4.12 shows the SN construct for Email was created using the following questionnaire items. The results can be seen below.

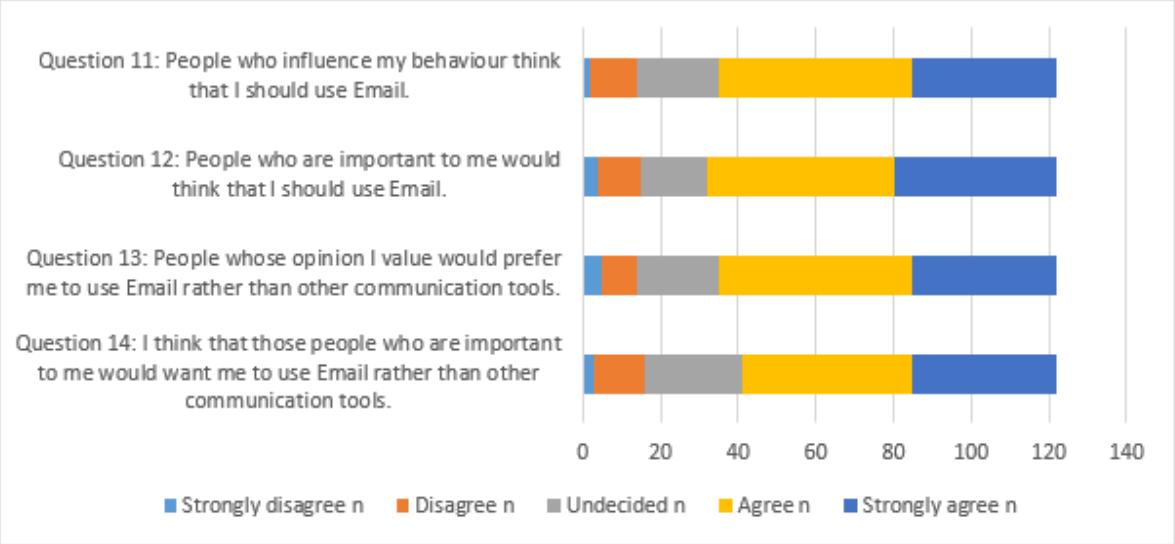

Figure 4.12. Items for SN construct of Email (n = 122)

A Likert scale was used for these questionnaire items. The possible values ranged from 1 (Strongly disagree) to 5 (Strongly agree). For Question 11, the majority of the participants stated that people who influence their behaviour think that they should use Email with 30.33% (n = 37) strongly agreeing and 40.98% (n = 50) agreeing with the statement. Interestingly, 17.21% (n = 21) of participants indicated they are undecided thus showing that some participants do not seem to be influenced by anyone in their choice of knowledge sharing and communication tools. However, some participants (9.84%; n = 12) disagreed with this statement and two (1.64%) participants strongly disagreed.

For Question 12, there were 34.43% (n = 42) of the participants who strongly agreed that people important to them think that they should use Email, while another (39.34%; n = 48) participants agreed. Some (13.93%; n = 17) of the participants were undecided, whereas 9.02% (n = 11) strongly disagreed with this statement and four (3.28%) disagreed.

Question 13 asked if people whose opinion they value would prefer them to use Email rather than other communication tools and (30.33%; *n* = 37) of the participants strongly agreed while 40.98% (*n* = 50) agreed. Fewer participants (17.21%; *n* = 21) were undecided and only 7.38% (*n* = 9) and 4.10% (*n* = 5) strongly disagreed and disagreed respectively. Lastly, for Question 14, there were 30.33% (*n* = 37) of participants who strongly agreed that they think that those people who are important to them would want them to use Email rather than other communication tools. A further 36.07% (*n* = 44) agreed with this sentiment. Twenty five (20.49%) participants were undecided, whereas 10.66% (*n* = 13) disagreed. Only 2.46% (*n* = 3) of the participants strongly disagreed.

The SN construct, as shown in Figure 4.12 above, was measured using four question/statements. In alignment with participant opinions about the platform's PU (Figure 4.10) and PEU (Figure 4.11), the SN also showed that the majority of the participants either strongly agreed or agreed with the statements. This shows, therefore, that they think people whom they consider important would want them to use Email. This researcher believes that this is a reflection of the current business environment where Email is seen as a productive business tool and, as such, people feel the need to use it.

Table 4.8 shows the mean and standard deviation for the SN construct of Email as a whole. This was calculated from the combination of the items as indicated in Figure 4.12.

Table 4.8. SN construct of Email (n = 122)*

Construct	**M**	**SD**
Email Subjective Norms	3.87	0.96

*Please note: a higher mean score indicates a higher SN felt by respondents using Twitter

As Table 4.8 above indicates, the participants generally felt that people who are important to them and who influence their behaviour want them to use Email. The mean is reported as 3.87 (SD = 0.96). The interquartile range of 1.75 (Q3-Q1) indicates that the median is not widely dispersed. Given the *M* of 3.87 for the SN construct for Email it can be assumed that the SN of Email is very high for the participants in this questionnaire. This means that most participants felt that there is a social need or pressure for them to use Email.

4.1.5.4 Behavioural intention (BI)

Questions 15 to 17 of section C focused on the Behavioural Intention (BI) of Email as a knowledge sharing platform. Figure 4.13 shows the BI construct for Email was created using the following questionnaire items. The results can be seen below.

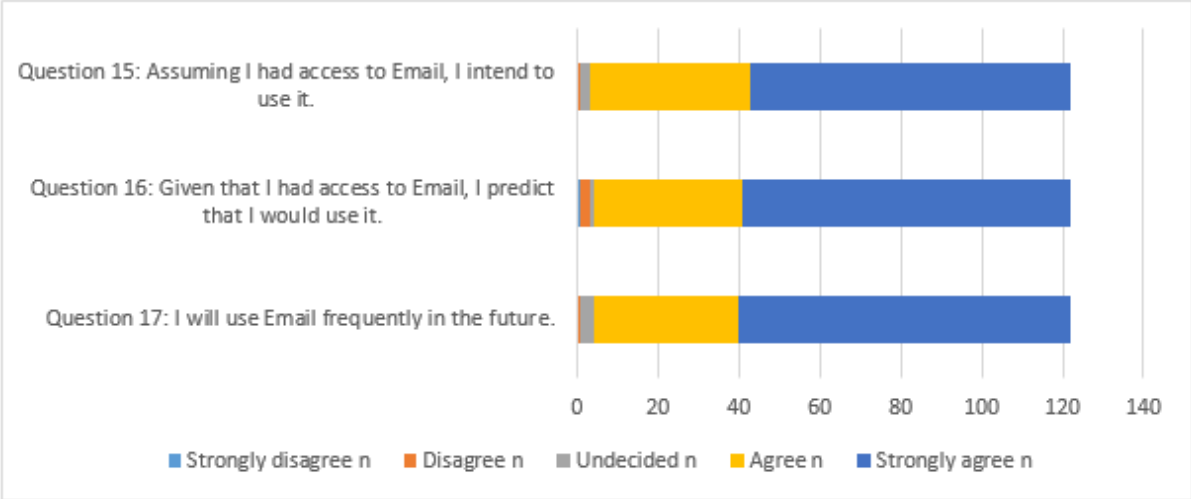

Figure 4.13. Items for BI construct of Email (n = 122)

A Likert scale was used for these questionnaire items. The possible values ranged from 1 (Strongly disagree) to 5 (Strongly agree). The majority (64.75%; n =7 9) of participants strongly agreed with the item of Question 15 that they would have intent to use Email if they had access to it. A further 32.79% (n = 40) of particpants agreed while only 1.64% (n = 2) were undecided. One (0.82%) participant disagreed with this sentiment and none strongly disagreed.

With the item of Question 16, the majority of participants 66.39% (n = 81) strongly agreed that they predicted that they would use Email if they had access to it while 30.33% (n = 37) agreed with this statement. Only one (0.82%) participant was undecided whereas three were against this sentiment with two (1.64%) disagreeing and one (0.82%) strongly disagreeing.

An overwhelming majority (67.21%; n = 82) of participants strongly agreed with Question 17 that they will use Email frequently in the future, and 29.51% (n = 36) agreed. Only three (2.46%) participants were undecided. One (0.82%) participant disagreed with this statement and none strongly disagreed.

The BI construct, as seen in Figure 4.13, was created using three questions in the questionnaire. The overwhelming majority of the participants again either strongly agreed or agreed with the notion that given the access to Email they would use it. This suggests the intention is driven by the previously discussed constructs. As the users find Email useful, easy to use and feel it is important for them to use it, they will also feel BI to use Email. This belief is shared by Shin and Kang (2015) who found what PU directly influences BI and that PEU has an indirect effect on BI by virtue of its effect on PU.

Table 4.9 shows the mean and standard deviation for the BI construct of Email as a whole. This was calculated from the combination of the items as indicated in Figure 4.13.

Table 4.9. BI construct of Email (n = 122)*

Construct	**M**	**SD**
Email Behavioural Intention	4.61	0.58

*Please note: a higher mean score indicates a higher BI was felt by respondents for using Twitter

As Table 4.9 indicates, the participants generally intend to use Email. The mean is reported as 4.61 (SD = 0.58). The interquartile range of 1 (Q3-Q1) indicates that the median is closely dispersed. This shows that the participants mostly shared the same opinion. Given the *M* of 4.61 for the BI construct for Email leaning towards participants strongly agreeing (option 5 being strongly agree on the Likert scale). Thus the overwhelming amount of the participants has a very strong intention to use Email.

4.1.5.5 Actual use (AU)

To measure the actual use (AU) construct of Email the researcher included three questions (18, 19 and 20). The results of these three questions are presented in Figures 4.14, 4.15 and 4.16.

Firstly, in Question 18 the participants were asked to indicate how many times they use Email during a week. They were provided options ranging from ‘Not at all’ to ‘Several times a day’. The results can be seen in Figure 4.14.

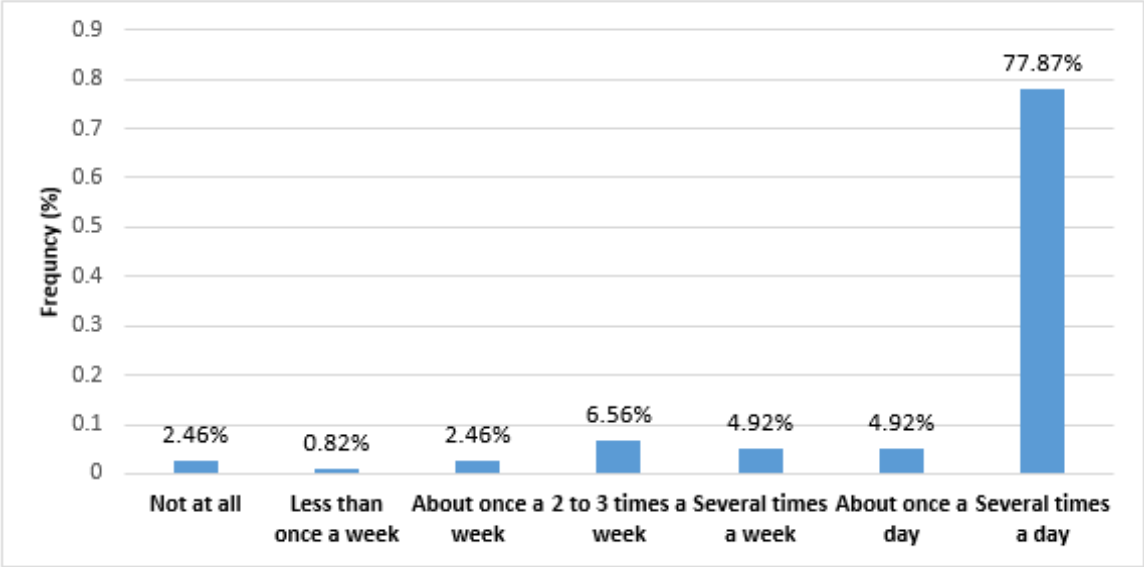

Figure 4.14. How many times Email is used during a week

As Figure 4.14 shows, the overwhelming majority (77.87 %; *n* = 95) of the participants indicated that they use Email several times a day. The researcher believes this indicates that the participants consider Email to be an integral part of their work flow. Another 4.92% (*n* = 6) of the participants indicated that they used Email at least once a day, while the same number (4.92%; *n* = 6) used Email several times a week. Fewer participants made use of Email two to three times a week (6.56%; *n* = 8) once a week (2.46%; *n* = 3) and less than once a week (0.82%; *n* = 1), while only 2.46% (*n* = 3) of the participants indicated that they do not use Email at all.

Secondly, in Question 19 the participants were asked how many hours they used Email every week. The options ranged from ‘Less than one hour’ to ‘More than 25 hours’. The results can be seen in Figure 4.15.

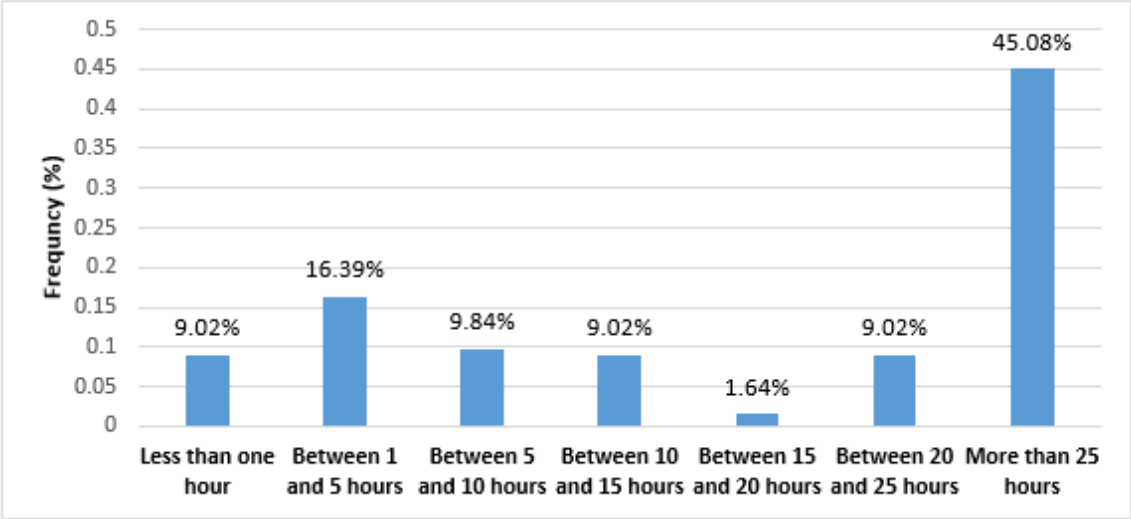

Figure 4.15. How many hours Email is used during a week.

Figure 4.15 indicates the majority (45.08%; *n* = 55) of the participants use Email more than 25 hours per week, whereas 9.02% (*n* = 11) use Email between 20 and 25 hours a week. A further 16.39% (*n* = 20) of the participants use Email between 1 and 5 hours a week and 9.02% (*n* =11) use Email less than one hour per week. As the information above shows, most Email users (55.74%; *n* = 68) tend to operate Email excessively more than 15 hours a week.

In the previous Figure 4.14, the overwhelming majority (77.87 %; *n* = 95) of participants, indicated they use Emails several times a day in the week. Therefore, by adding this measurement to Figure 4.15 it shows that users tend to spend a lot of time on the platform. In fact, 45.08% (*n* = 55) of the respondents spend more than 25 hours per week using Email. This again substantiates this researcher's notion that Email is integrated into the business world and is heavily relied upon to get daily tasks done.

Lastly, for Question 20 the participants needed to indicate how frequently they use Email. They were provided options ranging from 'extremely infrequent' to 'extremely frequent'. The results can be seen in Figure 4.16.

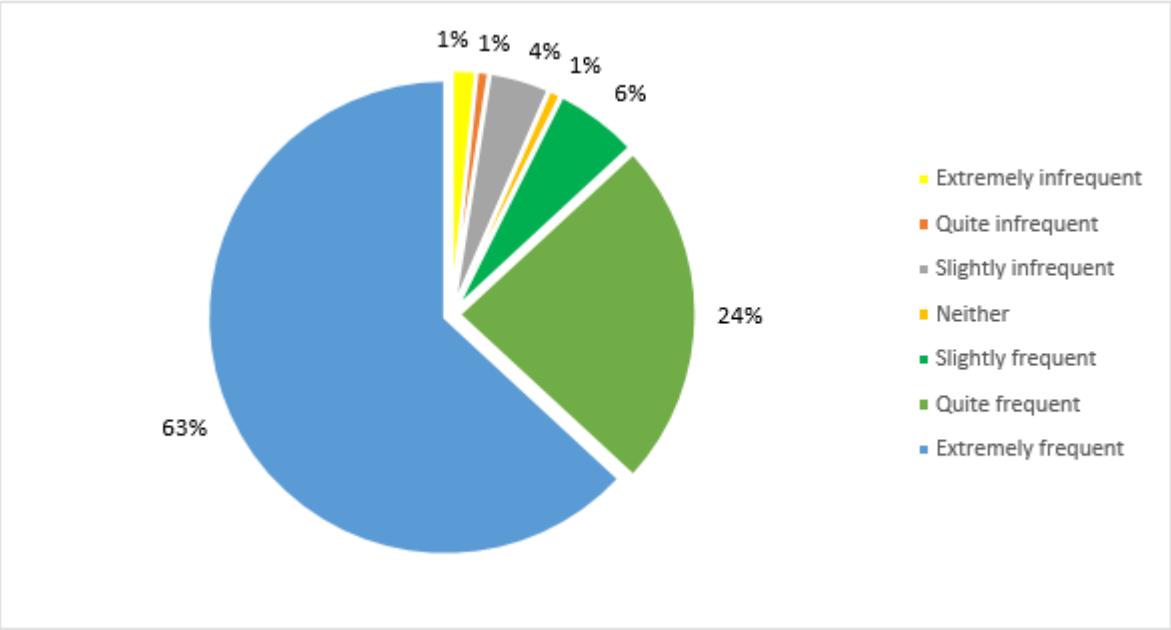

Figure 4.16. How frequently Email is used

The majority (63.1%; *n* = 77) of participants indicated that they use Email extremely frequently, while 23.8% (*n* = 29) of the participants indicated that they used Email quite frequently and 5.7% (n = 7) slightly frequently. Therefore, the scales indicating infrequent use were very minimal with only 1.6% (*n* = 2) indicating they use Email 'extremely infrequently' and 0.8% (*n* = 1) indicating Email use was 'quite infrequent' whereas 4.1% (*n* = 5) indicated 'slightly infrequent'.Email usage. Only 0.8% (*n* = 1) of the participants indicated no Email usage by selecting the 'neither' option as provided in this questionnaire item.

Therefore, Figure 4.16 shows that an overwhelming majority (86.9%; *n* = 106) of the participants frequently use Email. This is again indicative of the conclusive perception that repondents have of Email and that it is a critical tool for them which cannot, at this stage, be replaced without causing a shift in the businesses processes in regard to knowledge sharing and communication.

Table 4.10 shows the mean and standard deviation for the AU construct of Email as a whole. It was calculated from the combination of the questionnaire items (Questions 17 to 20) presented above.

Table 4.10. AU construct of Email (*n* = 122)*

Construct	M	SD
Email Actual Use	5.85	1.46

* Please note: a higher mean score indicates a higher AU of Email

As Table 4.10 indicates, the participants generally use Email as a knowledge sharing platform. The mean is reported as 5.85 (SD = 1.46). Given the *M* of 5.85 for the AU construct for Email, it can be assumed that the AU of Email is very high for the participants. This means that most participants use Email very frequently. Therefore, this researcher believes it shows that Email is the dominant platform used within the businesses from which the participants of the questionnaire were drawn.

Now that the constructs for both Twitter and Email have been presented the comparison of these constructs can be introduced in more detail. The sections below show the inferential statistics for the Twitter and Email usage.

4.2 Reliability

Cronbach's alpha was calculated through the item analysis technique. It was used in the quantitative aspect of this study to test internal reliability (Bonett & Wright 2015). The Cronbach's alpha value interpretation is shown in Table 4.11.

Table 4.11. Cronbach's alpha value interpretation

Cronbach's alpha	
Value	**Reliability Indication**
Above 0.8	Good
Between 0.6 and 0.8	Acceptable
Below 0.6	Unacceptable

For the purposes of this study the reliability was calculated for both Twitter and Email for the following constructs.

- Perceived Usefulness (PU)
- Perceived Ease of Use (PEU)
- Subjective Norms (SN)
- Behavioural Intention (BI)

- Actual Use (AU)

The reliability for these items, in terms of the Cronbach's alpha, is described in the sections below.

4.2.1 Perceived usefulness (PU)

The Likert scale was used to determine the Perceived Usefulness of respondents for both Email and Twitter. These were included in six questions of the questionnaire. The questions focused on work performance in terms of accomplishing tasks faster, task performance, productivity, understanding tasks, ease of communication with colleagues and usefulness of the platform for work tasks. These can be seen in Questions 1 to 6 of Section B and Questions 1 to 6 of Section C of the questionnaire (Annexure L). Table 4.12 shows the Cronbach's alpha for these Twitter constructs which indicated good scale reliability.

Table 4.12. Reliability results for Twitter: Perceived Usefulness (PU)

Section B: Twitter			
Construct	**Questionnaire Items**	**Cronbach's alpha**	**Reliability**
Perceived Usefulness	1,2,3,4,5,6	0.97	Good

Table 4.13 shows that the Cronbach's alpha for these Email constructs, also indicated a good scale reliability. The reliability tests can be seen in Annexure M.

Table 4.13. Reliability results for Email: Perceived Usefulness (PU)

Section C: Email			
Construct	**Questionnaire Items**	**Cronbach's alpha**	**Reliability**
Perceived Usefulness	1,2,3,4,5,6	0.95	Good

4.2.2 Perceived ease of use (PEU)

The Likert scale was used to determine the Perceived Usefulness of both platforms for the respondents. To determine the Perceived Ease of Use of Email and Twitter respectively, the

researcher used four questions. These questions focused on the ease of use, difficulty in doing actions, flexibility and the ability to become skillful in using the platform. These questions can be seen in as Questions 7 to 10 of Section B and Questions 7 to 10 of Section C of the questionnaire (Annexure L). Table 4.14 shows that the Cronbach's alpha for these Twitter constructs indicated good scale reliability.

Table 4.14. Reliability results for Twitter: PLerceived Ease of Use (PEU)

Section B: Twitter			
Construct	**Questionnaire Items**	**Cronbach's alpha**	**Reliability**
Perceived Ease of Use	7,8,9,10	0.98	Good

Table 4.15 also indicated that the Cronbach's alpha for these Email constructs, showed good scale reliability. The reliability tests can be seen in Annexure M.

Table 4.15. Reliability results for Email: Perceived Ease of Use (PEU)

Section C: Email			
Construct	**Questionnaire Items**	**Cronbach Alpha**	**Reliability**
Perceived Ease of Use	7,8,9,10	0.91	Good

4.2.3 Subjective norms (SN)

The Likert scale was used to determine the Subjective Norm of both platforms for the respondents. To determine the Subjective Norm of Email and Twitter respectively, four questions were used. These questions focused on the people around the participants and how they influenced the participant's view of using the platform. This includes people who influence the participant's behaviour. In other words, people important to the participants whose opinion they value.

Lastly the participants were asked if people important to them want them to use Twitter and Email over other tools. These questions can be seen in as Questions 11 to 14 of Section B and Questions 11 to 14 of Section C of the questionnaire (Appendix L). Table 4.16 shows that the Cronbach's alpha for these Twitter constructs, indicated good scale reliability.

Table 4.16. Reliability results for Twitter: Subjective Norms (SN)

Section B: Twitter			
Construct	**Questionnaire Items**	**Cronbach Alpha**	**Reliability**
Subjective Norms	11,12,13,14	0.96	Good

Table 4.17 shows that Cronbach's alpha for these Email constructs, also indicated good scale reliability. The reliability tests are attached in Annexure M.

Table 4.17. Reliability results for Email: Subjective Norms (SN)

Section C: Email			
Construct	**Questionnaire Items**	**Cronbach Alpha**	**Reliability**
Subjective Norms	11,12,13,14	0.93	Good

4.2.4 Behavioural intention (BI)

The Likert scale was used to determine the Behavioural Intention of both platforms for the respondents. To determine the BI of Email and Twitter respectively, the researcher used three questions. These questions focused on the participants' intent to use Twitter or Email if they had access to it. In the event that they had access they needed to indicate if they would use the platform. And then lastly, they needed to indicate whether or not they would use the specific platform more frequently in the future. These questions can be seen in as Questions 15 to 17 of Section B and Questions 15 to 17 of Section C of the questionnaire (Appendix L). Table 4.18 shows that the Cronbach's alpha for these Twitter constructs indicated good scale reliability.

Table 4.18. Reliability results for Twitter: Behavioral Intention (BI)

Section B: Twitter			
Construct	**Questionnaire Items**	**Cronbach Alpha**	**Reliability**
Behavioural Intention	15,16,17	0.97	Good

Table 4.19 indicates that the Cronbach's alpha for these Email constructs, can also be considered good scale reliability. The reliability tests can be seen in Annexure M.

Table 4.19. *Reliability results for Email: Behavioral Intention (BI)*

Section C: Email			
Construct	**Questionnaire Items**	**Cronbach Alpha**	**Reliability**
Behavioural Intention	15,16,17	0.95	Good

4.2.5 Actual use (AU)

The Likert scale was used to determine the Actual Use of both platforms for the respondents. To determine the Actual Use of Email and Twitter respectively, the researcher used three questions. These questions focused the amount of times a week and how many hours a week the participant used the platform. They also needed to indicate the frequency of use of each platform. These questions can be seen in as Questions 18 to 20 of Section B and Questions 18 to 20 of Section C of the questionnaire (Appendix L). Table 4.20 below shows that the Cronbach's alpha for these Twitter constructs indicated good scale reliability.

Table 4.20. Reliability results for Twitter: Actual Use (AU)

Section B: Twitter			
Construct	**Questionnaire Items**	**Cronbach's alpha**	**Reliability**
Actual Use	18,19,20	0.85	Good

Table 4.21 also shows that the Cronbach's alpha for these constructs, for Email, indicated good scale reliability. The reliability tests can be seen in Annexure M.

Table 4.21. Reliability results for Email: Actual Use (AU)

Section C: Email			
Construct	**Questionnaire items**	**Cronbach's alpha**	**Reliability**
Actual Use	18,19,20	0.81	Good

4.3 Qualitative Data Analysis

The sections below present the case study demographics for the three case studies that were done for this study. This is followed by a summary of the interview questions and responses. Thereafter, a summary of themes and subthemes identified through the thematic analysis process are presented. Lastly each theme and subtheme is explored and substantiated through quotations of participants involved in the study.

4.3.1 Case study demographics

In Table 4.22, the the job role and number of participants involved in the case studies which were conducted for the purpose of this research endeavour are presented.

Table 4.22. Case study: number of participants and job role

Job Role	Number of participants
Business A	
Management	1
Accounting	2
Quality Control (QC)	1
Buyer	1
Business B	
Management	2
Administration	1
Accounting	1
Human Resources	3
Business C	
Floor manager	1
Administrative	1
Workshop manager	1
Total Participants	**15**

Table 4.23 shows the gender division of the persons which were interviewed in each businesses at which the case study was implemented.

Table 4.23. Case study gender division

Business A
3 Men
2 Women
60% of the participants involved in the case study were men.
Business B
4 Men
3 Women
57~% of the participants involved in the case study were men.
Business C
3 Men
0 Women
100% of the participants involved in the case study were men.

Now that the demographic of the participants has been established a summary of the interview question responses is presented in the section below.

4.3.2 Summary of interview questions and responses

Table 4.24 shows a summary of the interview questions for both interviews, on Email and Twitter usage as conducted by this researcher. The questions are linked to the responses received for each.

Table 4.24. Summary of the interview questions and responses.

Subject	**Responses**
Email usage	
Using Email as a knowledge sharing tool	• Sharing Media, links video and Pdfs • Familiar • Email allows the user open multiple communication channels easily • The platform is ingrained in the business world

Engaging with clients	• 8 Participants preferred Email • 6 Participants preferred in person • 1 Participant preferred calling
Advantages of using Email as a knowledge sharing tool	• Traceability of old Emails and communication • Fast Search of these old Emails • Folders used to organise workflow in efficient manner • Emails is written confirmation and cannot be contested • Is considered to be professional
Disadvantages of using Email as a knowledge sharing tool	• Lack of emotion conveyed through text • Expensive to set up and maintain your own Email servers • Can easily ignore an Email • The Email platform and client is 'closed' only the person whose Email it is has access to it
Twitter usage	
Using Twitter as a knowledge sharing tool	• Sharing media such as links and videos • Access to new information streams
Advantages of using Twitter as a knowledge sharing tool	• Easy to learn • Fun to use • Free, available everywhere • The timeline is 'open' so everyone has access to it

Do you have a problem to become Twitter 'followers' with your clients or employees?	• 53% Yes • 47% No
When using Twitter as a knowledge sharing and collaboration tool. Do you end up checking the 'Twitter Feed' instead of checking what your other Twitter followers (not your co-workers) are up to?	• 20% Yes • 80% No
Is using Twitter during working hours allowed?	• 100% Yes • 0% No
Disadvantages of using Twitter as a knowledge sharing tool	• Twitter timeline moves to fast • Could be a possible distraction • Limited reach as everyone is not on Twitter • Could be considered as unprofessional due to the social nature of the platform

The section below describes the themes and subthemes identified through thematic analysis conducted by the researcher.

4.3.3 Summary of themes and subthemes

Through the thematic analysis (TA), as indicated in Chapter 3, several themes were unearthed. These themes are supported by subthemes in each case. A summary of the themes is presented in Table 4.25. This is followed by the intelligible verbatim transcriptions in italics of all the comments recorded whereby identifiers are used with each participant's number and the interview number to distinguish the participants and keep anonymity intact throughout each business (A, B or C). For example AP1_1 translates to Business A, Participant P1, Interview 1. The full transcriptions for all interview participants can be found as Annexure A of this document.

Table 4.25. Themes and subthemes

Theme	Subtheme
Email usage	
Advantages of Email usage	Email as a legal document
Disadvantages of Email usage	Closed Expensive Spam
TAM Constructs	Subjective norms (SN) Perceived Usefulness (PU) Perceived Ease of Use (PEU)
Communication	Lack of emotion
Administrative tool	Folders to sort information
Record keeping	Keep documents on hand Searchable
Twitter usage	
Advantages of Twitter usage	The service is reliable
Disadvantages of Twitter usage	Work environment distraction Timeline moves to fast
Tam Constructs	Subjective Norms (SN) Perceived Usefulness (PU) Perceived Ease of Use (PEU)
Knowledge sharing	Notifications Everyone can see what is going on (Open)
Security concerns	You do not control the content posted on Twitter
New / open information flow	Opens new stream of information Links to information in presentable way

The sections below elaborate on the themes and subthemes identified in Table 4.25. These themes are supported using direct quotations (in italics) from the interviews.

4.3.4 Advantages of Email

This theme outlines the advantages identified by the participant's Email usage. It includes one subtheme; the fact that Email can be considered to be a legal document as stated by Barker, Cobb and Karcher (2009). This means it has moved on from not only being a communication platform but a document which may be recorded for business use. This shift

has been noted by various participants shown below, and includes the understanding that businesses also use Email as a legal document when needed. As AP1_1 noted:

> *[I]t's [Email] contractual. So dit is goed vir kontrakte, ons vat 'n Email antwoord ook as ja, so as 'n official contract* [Line 31−32]
>
> *([I]it's [Email] contractual. So it is good to use as a contact, we use an answer on Email as confirmation and as official contract).*

Participant BP2_1 also shared this outlook:

> *Ek hou alles [all Email send and received] aangesien ek dit basies as bevestiging gebruik. Ons besigheids kontrakte word ook deur Email gestuur so ons het 'n getekende kopie op rekort* [Line 61−63].
>
> *(I keep everything [all Email sent and received] because I use it as confirmation. Our business contacts are also sent and received via Email so we have signed copies on record.)*

4.3.5 TAM constructs

This theme outlines three TAM Constructs identified by the participants' use of Email. It includes three subthemes; namely, i) Subjective norms (SN), ii) Perceived Usefulness (PU), and (iii) Perceived Ease of Use (PEU).

4.3.5.1 Subjective norms (SN)

This study defines subjective norms as the perceived pressure felt by an individual from people considered important to them, to use or not use a specific technology (in this case Email)(Lee & Kim 2009). The fact that 'everyone uses Email' was indicated by multiple participants as a major advantage of the platform, but this also increases the perceived pressure from one's peers to use Email. Participant CP2 1 combined this sentiment for using the platform with a sense of comfort when stating:

> *Email is just so ingrained in the business world I don't see a need to go looking*

for another platform. And it's the main form of communication our clients use so we are just a product of the environment when it comes to using Email [Line 24−26].

BP1_1 shared this sentiment by acknowledging that:

I think it is the only thing we know and that everybody uses it [Email] [Line 71].

Email has also naturally evolved as the next platform in the business world as participant BP2_1 noted:

Ons het maar net saam met die tyd gegaan. Van pos af, na fax, na Email [Line 24].
(We just moved with the times. From post, to fax, to Email.)

This was also indicated by many participants as a personal preference and not only a professional tool. As BP3_1 [line 23] puts it, in their personal lives they 'grew up' with Email which makes them more comfortable with the platform:

It's what I grew up [with] using and also what is used in our business and other businesses we deal with [Line 24−25].

BP7_1 also noted that he/she has always used Email and it works well:

I mean, it is what we … (I) have always used. I don't see the need for something else. Email works perfectly for me [Line 23−24].

4.3.5.2 Perceived usefulness (PU)

For the purpose of this study perceived usefulness is defined as the degree to which the user believes that using Email would enhance their job performance (Davis 1989).

AP3_1 states that Email allows for a more efficient workflow:

Dit [Email] is meer efficient ek kry dinge en inligting vinniger by mense uit en kry vinner opdragte vanaf [persoon x] om wat om te doen, veral as ek op site is [Line 51−52].

(It [Email] is more efficient, I can get things and information to my people faster and I can also get instructions from people on site faster.)

BP3_1 also expressed that Email works well and does not need to be replaced:

I think it works, and I know how to use it. I do not have time or a drive to learn a new 'thing' [Line 67−68].

4.3.5.3 Perceived ease of use (PEU)

For the purposes of this study, the researcher defines perceived ease of use as the degree to which the user believes that using Email would be free of effort and easy to use (Davis 1989).

AP1_1 stated his/her familiarity with using Email:

[E]k, ons, is net meer gemaklik met Emails [Line 89].

(I,… we, are just more comfortable with Emails.)

CP3_1 also stated that:

[D]it [Email] is gerieflik en maklik [om te gebruik] [Line 68].

([I]t [Email] is convenient and easy [to use].)

AP3_1 agreed with this sentiment stating that:

Ek het Email altyd gebruik vir persoonlike goed so ek was gemaklik daarmee. Dit is verstaanbaar en ek weet hoe om dit te kry wat ek wil doen sodat ek my

werk kan afhandel. [Line 19−20]

(I have always used Email for my personal things so I was comfortable with it. It is understandable and I know how to get it to do the things I need to get my work done.)

BP4_1 also supported this argument:

I don't know I just like the way Email works, and I know how it works [Line 27].

BP7_1 also stated that while Email is still working well there is no need for a change:

I would not like to learn a new program or something if I can still use Email [Line 52−53].

CP1_1 stated that Email works and allows him/her the best control their workflow:

Dit is maklik [om te gebruik] en dit werk. En soos ek gese het dit help my om dinge op my eie tyd te doen en my schedule so te beheer. Vergaderings is 'n mors van tyd en meeste van die tyd kan dit met 'n paar eposse opgelos word [Line 67−69].

(It is easy [to use] and it works. And as I have said it helps me to get things done on my own time and allows me to control my schedule. Meetings are a waste of time and most of the time a few Emails could have solved the problem as well.)

4.3.6 Disadvantages of Email

This theme outlines the disadvantages identified by the participants' use of Email. It includes two subthemes, namely: i) The fact it is a 'closed' platform, and ii) that it can be expensive to run and maintain.

4.3.6.1 Closed platform

The fact that Email is a closed platform came up as a potential disadvantage of Email that is. Only the person whose Email box it is can access it. Especially if the Email is critical to business processes as in BP1_1 case:

> *The only thing I can think of is that there is sometimes a problem with scheduling the leave when I am not here. I do not want to leave my Email open for all to see but this also means people are not aware of who is on leave or if there leave has been approved until I am back* [Line 87-90].

BP6_1 also shared this frustration by noting:

> *The only thing which can be a negative sometimes is that only I can access the information* [Line 60−61].

BP2_1 also added that private nature of the contents of some of their Email forces him/her not to open their Email to everyone in the business:

> *Ek kan nie rerig dit net oop laat dat almal my eposse sien nie want daar kom privaat eposse ook na my epos address toe* [Line 67−69].
>
> *(I cannot really just leave it open for everyone to see my Emails because I get private Emails as well.)*

4.3.6.2 Expensive costs

Any unnecessary expenses can be a major challenge to the development of small businesses (Chimucheka & Mandipaka 2015). Participant CP2_1 cautioned that Email could become a financial burden as the platform is not free to use.

> *We have our own Email server and we need to pay an admin fee to our IT guy to maintain it and back it up. We also purchased MS Office so we could use Outlook which is expensive* [Line 87−88].

4.3.6.3 Spam

One of the problems also identified with the use of Email is spam messages. This Email spam can be defined as an unsolicited Email where nearly identical Emails prompt the receivers to take action such as clicking a link to a malicious website. In doing so, their computers may become infected which can then spread to the whole network within a business (Kumar, Poonkuzhali & Sudhakar 2012). The participants in the study are at least aware of the annoyance created by these bulk unsolicited e-mails and also the possible danger in regard to computer viruses they may carry, as indicated by AP4_1:

> *[V]ir my wat nie lekker is nie, spam. Viruse word maklik oorgedra [deur Email]* [Line 113].
>
> *([T]o me a few things are not nice, spam. Virus can be easily transferred [via Email].)*

This notion was also supported by the comments of participant CP1_1:

> *[D]it is 'n probleem ek kry baie sulk Emails [spam Emails] wat nie net my inboks vol maak nie maar ook gevaarlik kan wees met viruses op die rekenaar* [Line 78-79].
>
> *([I]t is a problem I get many such Emails [spam Emails] which just clutters my mailbox but can also be dangerous as they may contain viruses which can be transferred to my computer.)*

4.3.7 Communication

This theme identified the communication capabilities of the Email platform as recognised by the participants. It includes one subtheme; namely, the lack of emotion in the written word when communicating through Email. Byron (2008) states that even if Email senders do not intend to convey emotion in their Emails the receiver may associate emotion with what is written. Unfortunately, such emotion is often misinterpreted as 'emotionally negative' (Byron 2008, p. 309) rather than neutral as intended by the sender. Many of this study's participants noted a lack of emotion on Emails may cause confusion and lead to some dissension between themselves and the receiver of the Email. According to participant AP1_1:

[D]ie ander nadeel is dat jy maklik iemand kan misverstaan. Die lack of emotion op Email dis hoekom ek met personeel eerder face-to-face praat [Line 107-109].

([T]he other disadvantage is that you can easily misunderstand someone. The lack of emotion on Email is why I prefer to speak to my employees face-to-face.)

Participant AP3_1 also stated that:

[D]it is moeilik om emosie deur te gee op Email [Line 60].
([I]t is difficult to convey emotion on Email.)

The fact that a misunderstanding could lead to an altercation between the participants of an Email was also mentioned by BP2_1:

Ek is net bang ons verstaan mekaar verkeerd op skrif [Email]. Dit is beter as ek met 'n mense praat en dan is daar geen onduidelikheid [Line 44-45].

(I am scared that we misunderstand each other on text [Email]. It is better to talk to people so that there is no uncertainty.)

This fear was echoed by BP5_1 stating that:

Ek wil net nie he daar moet 'n misverstand wees nie. Mens kan nie altyd lekker op Email 'baklei' nie. Dit is maar moeilik om te weet wat iemand dink deur net 'n Email te lees [Line 39-40].

(I just do not want there to be a misunderstanding. One cannot always 'fight' in a nice way on Email. It is difficult to know what someone thinks just through reading an Email.)

4.3.8 Administrative tool

This theme identified the administrative capabilities of the Email platform as identified by the participants' use of Email. It includes two subthemes; ,i) using folders within the Email client to sort information, and ii) using the calendar function of the Email client for scheduling and other administrative tasks. Many participants indicated that they use folders within their Email client to 'group' Emails together in a logical way. This also aids them when they need to recall the information on a later date as stated by CP2_1:

> *I like using the folders to organise my inbox. This and the search also allows me to quickly find information* [Line 72-73].

This function was also very valuable for the persons working with accounts within the businesses as they can order the Emails per client as AP2_1 noted:

> *[J]y kan folders skep per klient of per verskaffer, om rekort te hou* [Line 35].
>
> *([Y]ou can create folders for each client or for each supplier, for record keeping purposes.)*

This advantage was also brought up by participant BP3_1, stating that:

> *I use it to send out our monthly invoices. It saves a lot of time and allows me to keep track of who has been invoiced and at which time as so on. I have folders for our clients in my Email and I use that to organise the invoices and payment receipts* [Line 37-39].

4.3.9 Record keeping

The last theme identified for Email use was record keeping. It included two subthemes, namely: i) the ability to keep all documentation on hand, and ii) the fact that the information is retrievable in a fast and secure manner.

4.3.9.1 To keep documentation

The fact that Email can be kept effectively also reassures users that they have the records on hand should they need it in future. As stated by AP1 1, the advantages of Email are

> *[D]it traceable. en, dit is baie effektief vir filing en rekord keeping. Achieving purposes* [Line 25-26].
>
> *([I]t is traceable. And it is very effective for filing and record keeping. [For] achieving [certain] purposes.)*

AP2_1 also stated that it is useful for them to have a record of everything:

> *Epos is vir my lekker omdat jy iets op papier, op rekort het* [Line 25].
>
> *(Email is nice for me because you have something on paper, on record.)*

The fact everything is on record also ensures the user has the information to use in future to 'protect' their business. BP5_1 explained such a situation:

> *Ek moet al my Emails hou want ek sal soms daarop 'n bevestiging kry van 'n klient dat hulle 'n diens wil he. So dit is goed om dit alles te hou as bewys as hulle later se hulle het nooit gevra daarvoor nie. En dalk betaling weier… of iets in daai lyn* [Line 52-55].
>
> *(I must keep all my Emails because I sometimes get confirmation from a client that they want a service to be done. So it is good to keep everything as proof if they later say they did not request the service. And maybe do not want to pay… or something to that effect.)*

4.3.9.2 Searchable

Another advantage of Email is the way the platform handles storing Email which allows users to search through old Emails fast as BP6_1 noted:

I like the fact that it is all centralised in one location. I can search through it and get information fast. Especially as I get the same queries from multiple people so I can forward the same response to them [Line 54 -56].

4.3.10 Advantages of Twitter usage

This theme outlines the advantages identified by the participants' use of Twitter. It includes one subtheme: the fact that the Twitter service is reliable. As participant BP3_2 stated:

[I]like that it is fast and instant, unlike Email. I also think that it would be reliable as Twitter is not really ever offline [Line 19-20].

This was also stated by CP3_2 adding that it was free:

[D]ie feit dat dit betroubaar was. Dit was heeltyd aan. En dit is maklik om op die foon te gebruik. En dit is verniet [Line 24-25].

([T]the fact that it is reliable. I was on the whole time. And it is easy to use on my phone. And it is free.)

4.3.11 TAM constructs

This theme outlines three TAM Constructs identified by the participants' use of Twitter. It includes three subthemes; i) Subjective norms (SN), ii) Perceived Usefulness (PU) and iii) Perceived Ease of Use (PEU).

4.3.11.1 Subjective norms (SN)

This study defines subjective norms as the perceived pressure an individual feels, from people consider being important to them, to use or not use a specific technology, in this case Twitter (Lee & Kim 2009). One of the main criticisms from various participants involved in the study is that Twitter is not considered as a professional platform for business, unlike Email. This observation indicates a perceived pressure from peers to not use Twitter. As participant AP1_2 states:

[D]it voel soos 'n game en is nie profesioneel vir my nie [Line 32].

(It feels like a game and is not professional for me.)

AP5_2 further noted that Twitter is considered to be a young person's platform:

Ek voel die werksplek moet professioneel wees en Twitter is nie deel daarvan nie. Dis meer iets wat jong mense gebruik [Line 21-22].

(I feel the workplace needs to be professional and Twitter is not part of that. It is more something that young people use.)

BP6_2 expressed concern over what clients will think of the business using social media:

I do not think it [using Twitter] is a good idea. Social media should not be [used] with clients, internally it is fine [Line 16-17].

4.3.11.2 Perceived usefulness (PU)

Davis (1989, p. 985) defines PU as 'the degree to which a person believes that using a particular system would enhance his or her job performance'. For the purpose of this study perceived usefulness is defined as the degree to which the user believes that using Twitter would enhance their job performance.

The majority of the participants indicated that they did not perceive Twitter as being useful to them for work purposes, mostly because Email is so strongly ingrained in their business processes and 'does the job', or as AP3_2 stated:

Nie wat dit vir my aanbetref nie. Die huidige systeem van Email en bel ensovoorts werk perfek vir my en ek dink nie Twitter gee enige voordeel wat maak dat ons dit moet gebruik nie [Line 38-39].

(Not as far as I am concerned. The current Email system and calling etc. works perfectly for me and I do not think Twitter gives us any advantage that forces us to use it.)

BP4_2 also noted that Twitter does not provide a massive advantage which would cause their business to move wholly to the platform:

There is nothing I would say is a big advantage over the system [Email] we have now. Twitter work[s] fine, but no real advantage – for me at least [Line 9-10].

CP2_2 also stated the usefulness of Twitter is limited, at least by the restricted nature of the posts:

The posts are too short. I like being clear and I don't think Twitter allows you to really elaborate. And I don't want to make 100 posts on one thing; I would rather just type an Email [Line 51-52].

4.3.11.3 Perceived ease of use (PEU)

PEU is defined as 'the degree to which a person believes that using a particular system would enhance his or her job performance' (Davis 1989, p. 985). For the purposes of this study, perceived ease of use is defined as the degree to which the user believes that using Twitter would be free of effort.

Most participants found Twitter a bit overwhelming in the period that they used it, or as BP1_2 stated:

Maybe the younger people who already know how Twitter works. I know how Email works so I feel comfortable with it − less so with Twitter [Line 54-55].

This was also noted by BP3_2 who felt more time was needed to fully understand Twitter:

And also I found it [Twitter] a bit difficult to learn and understand. Maybe if I had more time I would become more accustomed to it [Line 40-41].

BP5_2 also felt time was needed to get used to the platform:

> *Ek vind dit [Twitter] bietjie moeilik om te gebruik, veral op my foon. Dit is iets om aan gewoont te raak* [Line 38-39].
>
> *(I find it [Twitter] a bit difficult to use, especially on my cell phone. It is something to get used too.)*

It should also be noted that at least one participant, AP2_2, enjoyed using the new platform, but also stated that it was still a new process to grasp:

> *Dit [Twitter] is lekker om te gebruik en soos ek gese het dis lekker om alles op een plek te he, maar dit is maar nog nuut vir my* [Line 19-20].
>
> *(It [Twitter] is nice to use and as I have said it is nice to have everything in one place, but it is still new to me.)*

4.3.12 Disadvantages of Twitter usage

This theme outlines the disadvantages identified by the participants' use of Twitter. It includes two subthemes, namely: i) That Twitter can be considered by some as a distraction in the work environment, and ii) the Twitter Timeline moves too fast to be effectively used.

4.3.12.1 Work environment distraction

Walden (2016) mentions one concern is that personal social media complicates the value of a professional social media network. This is owing to a social stigma carried over to Twitter as was evident by participant AP5_2's comment:

> *Ek dink dit trek net mense se aandag af en dit veroorsaak dat hulle stadiger werk en net heeltyd na Twitter staar* [Line 42-43].
>
> *(I think it distracts people and causes them to work slower because that they just look at Twitter the whole time.)*

4.3.12.2 Timeline moves too fast

The fact that Twitter creates a 'noisy, fast-paced, ephemeral environment' (Page 2015, p. 340) is concerning when you want to use the platform for communication and knowledge sharing. This is a disadvantage of Twitter that many participants identified in the study. They indicated that, on one level or another, the information in the timeline moved too fast. For example, CP1_2 stated:

> *Dit [the timeline] beweeg te vinnig en mens kan nie rerig dit volg nie. So ek kan dit nie rerig gebruik om my werks lewe te organiseer nie* [Line 38-40].
>
> *(It [the timeline] moves very fast and you cannot really follow the information. So I could not really use it to organise my work life.)*

And CP3_2 expressed difficulty in following information and conversations:

> *Die timeline beweeg ook vinnig as baie mense post so ek het nie dit lekker gevolg nie* [Line 48-49].
>
> *(The timeline moves to fast if a lot of people is posting and I did not follow it very well.)*

This fast-paced way of displaying information was also a concern for participant AP1_2 who noted that there is also a lot of irrelevant information:

> *Ons kry ook baie inligting wat nie relavant is nie dit is moeilik om te filter* [Line 55].
>
> *(We also get a lot of information which is not relevant and it is difficult to filter it.)*

Participant BP6_2 indicated that this also makes it difficult to search for old posts or past information:

The fact that it is moving all the time makes it difficult to find old posts. If the search function could be used only to search your timeline that would be much better but the search searches for everything so it is not really useful to me in this case [Line 40-42].

4.3.13 Knowledge sharing

This theme outlines the knowledge sharing capabilities identified by the participants' use of Twitter. It includes two subthemes, namely: i) Using Twitter as notification platform, and ii) the fact that Twitter is open so everyone can see what is going on.

4.3.13.1 Notifications

In regard to knowledge sharing, participant CP2_2 noted that Tweets could be used as a notice board for indicating small messages applicable to many people, for example:

'[W]e had bottled water delivered so I wrote a post that telling them they can come and take a bottle. Stuff like that [Line 45-46].

4.3.13.2 Everyone can see what is going on with an open forum

As noted in section 4.5.3.1 a closed platform, considered a disadvantage of Email, was negated by Twitter's open forum, or as AP4_2 states:

Ek dink die sharing [information] tussen colleagues help dat almal weet wat aangaan op die jobs. En dit is ook lekker as die sleutel persoon nie by die werk is nie dan kan almal gaan kyk op Twitter en weet wat moet gebruik en of daar iets fout gegaan het. Dan kan ons die kliente beter help [Line 50-53].

I think that sharing [information] between colleagues helps everyone to know what is going on at the jobs. And it is nice that you still have access to information on Twitter even if the key person is not at work so you can see on Twitter what needs to be done and if something went wrong. Then we can also assist our client better.)

This view was also shared by BP1_2:

I liked seeing everyone's Tweets, it [Twitter] felt more open than Email. With Email I could only see people who replied to me, with Twitter all replies or conversations are for everyone to see.'[Line 20-22]

CP2_2 also stated that the open nature of Twitter is advantageous to make information readily available to everyone in the business:

Well one advantage, or what I liked, was that everyone posts one place so everyone can see what's going on. Or at least if someone, for example, says: "I am going out till 2p.m." you could see it there. It's not perfect because you may miss the message unlike Email but it works for me [Line 22-25].

However, this advantage was also seen as a disadvantage by BP4_2 who noted:

Most of the things we do in regard to CVs, salaries and so forth are private so the open platform such as Twitter does not lend itself to that [Line 38-39].

4.3.14 Security concerns

This theme outlines the security concerns identified by the participants' use of Twitter. It includes one subtheme; that using Twitter inherently 'gives' your information to the platform and you do not have control of it anymore. Users need to be engaged with the platform to ensure that it can be used in an effective manner. Staddon et al (2012) found that concerns over privacy related to using social media platforms may be a stumbling block to engagement. One of the advantages of Email is that a user can maintain control of the system, if the Email server is managed by the user. With Twitter this control is lost because the user does not control Twitter's service and as such the information is given away in order to use it. This concern is brought up by BP2_2 who states that:

[D]ie feit dat ek nie beheer het oor die Twitter nie is vir my 'n nadeel. Ek kan ook nie dit stoor so maklik soos ek 'n Email kan stoor nie [Line 43-44].

(The fact that I have no control over Twitter is a disadvantage of the platform to me. I cannot achieve or save the information as easily as I can with Email.)

4.3.15 New and open information flow

This theme outlines the possibility of new and open information flow as identified by the participants' use of Twitter. It includes two subthemes; i) new information sources can be identified and used, and ii) Twitter allows a way to show links to information in a coherent way.

4.3.15.1 New information sources

Twitter adds the advantage of opening up multiple information sources, or as stated by AP1_2:

Twitter is great om inligting te kry wat ek nie andersins sou sien nie. Ek is nie heeltyd op die internet nie, maar om vinnig op Twitter te gaan en mense wat ek volg se goed te sien help om nuwe inlitging vinnig by my te kry [Line 37-39].

(Twitter is great to get new information which you might not have seen otherwise. I am not on the internet the whole day, but on Twitter I can see the people I follow and get information quickly.)

AP4_2 also noted that it is an easy way to reach many people:

Knowledge sharing deur Twitter reach baie meer mense, en ek kan ook meer mense reach as wat ek net met mense om my of my skype contacts praat [Line 28-29]

(Knowledge sharing through Twitter reaches a lot more people, and I could also reach and talk to more people when compared to just the people around me or the people in my skype contacts.)

BP7_2 felt that information on a topic could be better searched for on Twitter, which may not have been found otherwise:

It's nice for me to use the search and look through all the media such as videos and images. I think it can be a good way to find new information about a topic [Line 20-21].

4.3.15.2 Links to coherent information

Another advantage Twitter presented for the businesses involved in this study, is that Twitter allows users to show a lot of information in a coherent manner, or as participant CP2_2 stated:

[For]the knowledge sharing aspect I can think that it has value because you have a place where you can post links to important documents or information sources [Line 64-65].

This advantage was also identified by CP3_2 who added the caveat that while it might not be possible to replace Email in the business, a combination of both platforms could enhance current Email usage:

Dit [Twitter] sal nie Email kan vervang hier by ons nie. Daarvan is ek seker. Dit sal dalk kan gebruik word as 'n plek om links te plaas dat almal dit kan sien of dalk meer as 'n kennisgeing bord [Line 55-56].

(It [Twitter] will not be able to replace Email here. I am certain of that. I think it could be used as a place to save links which everyone can see or maybe more as a notice board.)

The approach used to triangulate both types of data presented above is shown in the section below.

4.4 Triangulation and integration of research findings

The literature defines the process of triangulation as an approach to use multiple data sources and find results which are complementarity or contradictory. Through this process the validity of the conclusions drawn from the research is increased (Adams et al. 2015). In the

sections below, this researcher firstly presents the themes from the thematic analysis of the qualitative data, thereafter each theme is integrated with the questionnaire data analysis where applicable.

To facilitate the triangulation and integration process, the approach as set out by Wisdom and Creswell (2013) was used to validate the qualitative findings (generated through thematic analysis) with the quantitative data. The method was chosen because it makes the most sense to present the two types of data as collected and analysed.

4.5 Chapter Conclusion

This chapter presents the results of the quantitative and qualitative data collected. The chapter supplies the information from the questionnaires as a basis for the current outlook on Email and Twitter usage. It then also shows how the business owners and workers, to which Twitter was introduced, reacted and used the service. The demographic characteristics are presented first, followed by the analysis and brief description of the findings generated from the questionnaire data. A synopsis of the interview questions, followed by the themes and subthemes identified within the interview responses is then described.

In Chapter 5 the research discussion is presented, whereby the results of the data analysis will be elaborated upon and interpreted to answer each research question.

CHAPTER 5: DISCUSSION, RECOMMENDATIONS AND CONCLUSION

The focus of this study is to determine if Twitter could be used as viable replacement for a traditional knowledge sharing platform, such as Email, in small businesses located in the Western Cape. The previous chapter presented the results of the questionnaire data as well as the themes generated from thematic analysis of the interview transcripts. In this Chapter 5 the research questions are answered through a discussion of the results presented in the previous chapter. This discussion also shows the placement and relevance of this study in the field. This researcher then summarises the study and will propose avenues for future research. To conclude, the limitations of the study are presented.

The primary research question of this study is supported by two subquestions, and six objectives which are discussed below.

5.1 Research discussion

The research discussion below addresses each research question (RQ1, SQ1, SQ2) posed at the beginning of this study. These questions have been answered by triangulation of the results from the quantitative data and the qualitative data as set out in Chapter 4. The main question uncovered Twitter usage as a knowledge sharing tool compared to Email, while the subquestions explored the advantages and disadvantages of using Twitter as a knowledge sharing platform.

5.1.1 Perceived Usefulness (PU) and Perceived Ease of Use (PEU) of Email and Twitter

In the section below, a summary of the PU and PEU data is provided for both Twitter and Email. This is followed by a discussion of the results whereby the PU and PEU of both platforms are looked at in more detail as per the research objective (RO1) reiterated below:

> **RO1: to discover the perceived usefulness (PU) and perceived ease of use (PEU) of Twitter and Email when it comes to knowledge sharing within the business**

Firstly, for the PU of both platforms, the questionnaire data analysis finds the mean PU for Email to be 4.309 (value of 4 on the Likert scale) of participants who agree that the platform

is useful. On the other hand, Twitter's usefulness has been found to have a mean PU value of 2.036 (value of 2 on the Likert scale) thereby disagreeing with the notion that the platform is useful. These results are collaborated by the case study for both platforms, whereby in the interviews Email is found to be very useful to participants who describe it in terms of being 'efficient' (AP3_1, line 51]) and that 'it works' (BP3_1, line 67) to describe its perceived usefulness. The majority of the case study participants, therefore, indicate they do not perceive Twitter as being useful for work purposes which again, supports the results of the questionnaire data which suggests the main reason is that Email is strongly entrenched in their business processes and does the job it is supposed to do. Therefore, the fact that Email works well appears to have tarnished the PU of Twitter as no 'real advantage' is perceived [BP4_2 line 10] for using Twitter in place of Email. In addition, the PU of Twitter is seen as limited because 'the posts are too short' (CP2_2, line 51).

Secondly, for the PEU of both platforms, the questionnaire data results show a mean of 4.404 (value 4 on the Likert scale) for the PEU of Email, which indicates participants agree that the platform is easy to use. However, with Twitter, the mean value of 2.684, participants do not agree that Twitter is easy to use, but it should be noted that there is also some indecision around this response as the value leans towards 'undecided' on the scale (value of 2 and 3 indicating disagreement and indecisiveness respectively on the Likert scale). Similarly, the case study responses are in line with the majority of questionnaire participants who find Email to be very easy to use, describing it as 'gerieflik en maklik (convenient and easy)' (CP3_1, line 68), while many others indicate a sense of comfort by using the platform (participants AP1_1 and AP3_1).

By contrast, the majority of participants in the case study do not perceive Twitter as being easy to use, which again supports the results of the questionnaire data. For example, BP1_2 notes being less comfortable using Twitter as opposed to Email. Other participants also note that Twitter is 'difficult to learn and understand' (BP3_2, line 40), and 'moeilik om te gebruik (difficult to use)' (BP5_2, line 38). It should be noted that at least one participant indicated that Twitter is pleasant to use, stating it is 'lekker om te gebruik (nice to use)' (AP2_2, line 19).

Now that the PU and PEU of both platforms are presented, these results are compared below and a possible reason for the contrast is suggested.

RO2: to compare the perceived usefulness (PU) and perceived ease of use (PEU) of traditional knowledge sharing platforms (such as Email) compare to using Twitter in practice as a knowledge sharing platform?

Firstly, consideration of the PU construct in the questionnaire data shows that the difference between the PU of Email and Twitter is significant through a repeated-measures *t*-test, $t\ (121) = 19.560$, $p < 0.001$ (full results attached in Annexure J). The repeated-measures *t*-test can be considered to be an expression of the difference between the results of the questionnaire data for both platforms for the PU construct. The larger the value of *t*, the more pronounced the difference between the conditions, and the smaller the probability is that this difference occurred by chance. In this case, a large *t* value of 19.560 was found, thus indicating a pronounced difference. This finding is supported by the results of the case study.

The findings of the questionnaire above show that the PU for the two platforms greatly differ, which suggests that the PU of Twitter is not as high as that of Email mainly because users have been using Email much longer. This assumption is based on the findings of Nikolaou (2014) who states that users who spend more time on a specific social networking website (SNW) are inclined to perceive the SNW as more effective. This, therefore, indicates that because users know how Email works and how it fits into their business's work plan they perceive Email to be more useful than Twitter.

Secondly, the difference observed between the PEU of Email and Twitter has been shown to be significant through a repeated-measures *t*-test, $t\ (121) = 13.978$, $p < 0.001$(full results of the repeated-measures *t*-test may be seen in Annexure J). In this case, a large *t* value of 19.560 indicates a pronounced difference. This finding is supported by the results found in the case study, which suggests that the users' comfort with the platform combined with many years practice means that they perceive Email to be easier to use than Twitter (Ally 2012). It should be noted; however, that the mean score of 2.684 (value of 3 on the Likert Scale) for the PEU of Twitter also leans towards users being undecided. This could suggest that users have not had a long enough exposure to Twitter to make a confident judgement on the PEU, but the fact that they are not in outright disagreement with the idea that Twitter is easy to use shows that it might, given more time, be perceived as easy to use (Ally 2012).

In the section below, the effect of Subjective Norms (SN) on Behavioural Intention (BI) as well as Actual Use (AU) when comparing both platforms are discussed.

5.1.2 The effect of Subjective Norms on Email and Twitter usage

Now that the paired differences of the PU and PEU have been presented the influence of subjective norms (SN) on the Behavioural Intention (BI) and Actual Use (AU) of Email, and then Twitter is discussed in terms of objective RO3.

> **RO3: to explain how the subjective norms (SN) influence the behavioural intention (BI) to use Email.**

The results of the analysis shows the Spearman's ρ value to be 0.4828 when comparing the variables of BI and SN for Email, (the statistical analysis for the non-parametric Spearman's ρ calculations is attached as Annexure K). This means that there is not a strong correlation between the SN and the intention to use the platform. The research objective below addresses the effect of SN for the AU of Email.

> **RO4: to explain how the subjective norms (SN) influence the actual use (AU) of Email**

Similarly, when comparing the variables of AU and SN for Email, the Spearman's ρ value of 0.4763 also shows no strong correlation between the variables (the statistical analysis for the non-parametric Spearman's ρ calculations is attached as Annexure K). This result indicates the SN does not influence the use of the platform. It also suggests the preference for Email as knowledge sharing platform is due to Email being a dominant platform in business as the established 'go-to' communication platform in the business environment and because it is available and fulfils current needs. However, this notion may also skew a user's opinion as they tend not to focus on issues within the platform because it is so dominant (Gawer 2014). This conclusion is supported by comments made by the case study participants during the interviews; one participant describes the choice to use Email as 'Email is just so ingrained in the business world' (CP2_1, line 24) and another states that 'everybody uses it [Email]' (P1_1, line 71).

Secondly, the influence of SN on the BI and AU of Twitter for the participants was the next objective for this study.

RO5: To uncover how the subjective norms (SN) generated from the social aspect of Twitter influence the behavioural intention (BI) to use Twitter.

The statistical analysis for the non-parametric Spearman's ρ calculations is attached to this document as Annexure K. The results of the analysis show that a Spearman's ρ value of 0.6193 is found when comparing the variables of BI and SN for Twitter. This means that there is a strong correlation between the SN and the intention to use the platform. The research objective below addresses the effect of SN of AU of Twitter.

RO6: To uncover how the subjective norms (SN) generated from the social aspect of Twitter influence the actual use (AU) of Twitter.

This BI to use Twitter does not, however, translate into AU of the platform as the Spearman's ρ value of 0.2339 shows a weak correlation between the variables when comparing the AU and SN for Twitter (the statistical analysis for the non-parametric Spearman's ρ calculations is attached as Annexure K). This researcher believes it suggests that even though the concept of using Twitter seems fun, and participants may be open to trying Twitter, the actual use of the platform still holds its own challenges, such as overcoming the stigma linked to social media and the perception it is only to be used in one's private life which should not mix with one's work life. The attitude is also shared by the interviewees of the case study after they used Twitter in a work environment. For them, Twitter does not yet exist in the same realm as other business tools as it is still seen as a 'game' (AP1_2, line 32). For these participants, the workplace still needs to feel professional and Twitter does not fit into this mould.

5.1.3 Real world usage of Twitter and Email

The next objective is to determine the actual use and the current landscape of Twitter and Email usage in small South African businesses. This is stated in terms of the main research question as stated below.

RQ1: How are businesses using Twitter as knowledge sharing tool when compared to Email usage?

This researcher's supposition at the beginning of this research study, is that Twitter is not currently being used in small businesses. This notion is confirmed by the analysis of the questionnaire data which shows the mean for the AU construct of Twitter as a whole is 1.61 (n = 122) (see the full statistical analysis of this construct in Annexure I). That said, when Twitter was introduced into the businesses involved in the case study, the participants used Twitter in two notable ways; firstly, they shared media such as links and videos, and secondly, Twitter gave the participants access to new data streams.

In contrast to Twitter, Email usage is as high as expected since Email is an established knowledge sharing platform in small businesses (Hwang 2012). The mean score for the AU construct of Email as a whole is 5.85 (n = 122) (see the full statistical analysis of this construct in Annexure I). During the case studies, Email is used to share media, links video and Pdfs. In addition, participants are more familiar with this platform and they indicate this factor makes them more comfortable to use it. Email also allows users to open multiple communication channels easily. Lastly, as discussed above, Email is so entrenched in the business world that it makes business sense to use it.

To further support the main research question (RQ1) two sub-questions (SQ1 and SQ2) were investigate in respect of Twitter and Email.

SQ1: What are the advantages of using the platform as a knowledge sharing platform?

Firstly, the advantages of Twitter were indicated by participants as:

- Twitter is a free-to-use platform which can be accessed from multiple devices such as a computer, tablet and mobile phone.
- The Twitter timeline is also 'open' (BP1_2, line 20) so everyone, in the business, has access to it. Participants find this attribute gives the platform an advantage over a more personal and closed environment such as Email.

The advantages for Email usage is indicated by participants as:

- The traceability of old Emails and communications is a real advantage.
- Participants also like using folders for their Email clients to enable them to organise their Emails logically and this, in turn, allows them to conduct work-related tasks more efficiently.
- In addition, Email is also seen as a form of written confirmation and can be considered a legal document.
- Lastly, Email is considered to be a professionally accepted practice to both communicate and share information with clients and colleagues.

The disadvantages of using both platforms are covered by SQ2 as follows.

SQ2: What are the disadvantages of using the platforms as a knowledge sharing platform?

The University of Twente (2014) rightfully states that the UGT also includes the disadvantages of usage, not only the advantages. As such, this researcher considers the following disadvantages which came to light during the investigation of Twitter usage in this study. The case study particiants considered the first disadvantage of the Twitter platform to be:

- It is 'difficult to learn and understand' (BP3_2, line 40) and 'moeilik om te gebruik (difficult to use)' (BP5_2, line 38). However, at least one participant (AP2_2) finds the platform 'fun' to use. This is important because this would make its adoption as a tool for a website easier (Liu, Cheung & Lee 2010). This view that the platform is fun to use also might be enough to convince users to keep using the platform over a longer period of time and in so doing, it might change the perception of the difficulties that some have indicated.
- For other participants, the Twitter timeline moves too fast, and as such, participants are afraid they might lose/miss information or become overwhelmed by the amount of information.
- Twitter is also considered a distraction by some participants. Another notion is that Twitter has a limited reach as everyone in the business world is not on Twitter compared to Email.

- Lastly, Twitter is considered as unprofessional due to the social nature of the platform.

Despite Email being the dominant platform, the thematic analysis revealed the following disadvantages for using the platform.

- Firstly, the lack of the ability to clearly convey emotion through text could cause misunderstandings especially if a conversation becomes intense (Gupta, Gilbert, & Di Fabbrizio 2013). Even though an author may attempt to write unemotional Emails, the recipient could perceive the message differently.
- Secondly, the fact that Email can also be easily ignored, as opposed to a personal face-to-face meeting.
- Thirdly, to ensure control and security, the business may choose to set up and maintain dedicated Email servers. This option can, however, be expensive and as such become detrimental to a small business's survival.
- Lastly, the Email platform and client is 'closed' thus only the person who owns the Email box has access to it.

Based on the questionnaire data and thematic analysis, this research concludes with a presentation of a recommendation for the best way forward for Twitter usage as a knowledge sharing platform in small businesses.

5.2 Recommendation

The GEM South Africa Report (2014) identified ease of access to communication and knowledge sharing infrastructure as a major challenge for success that is faced by small businesses in South Africa. This researcher believes that Twitter could be used as such a platform as it is free to use and could be easily adopted by small businesses located in the Western Cape.

The results showed that participants were not willing to fully adopt Twitter as a knowledge sharing infrastructure but rather to use it as an additional tool in combination with Email. Consequently, in the discussions above, this research identifies two of the best current usages for Twitter in small businesses as follows:

- Firstly, the Twitter platform could be used as notice board to post short messages that are applicable to many people. A point made by a case study participant, for example, (participant CP2_2) is that it could be used for notifications to convey important information to the whole business.
- Secondly, as everyone can see what is going on in the Twitter timeline of the business, the Twitter platform can be considered 'open' as opposed to Email being a 'closed' platform. For this researcher, there are two attributes that could be the major advantage of Twitter:

  (i) A user can post something openly that might be of value and make connections with someone new that would not have happened otherwise. This attribute is a very strong case for the use of Twitter within a business as indicated by various participants in the case study:

  - *[Twitter] felt more open than Email.* (BP1_2, line 20).
  - *[The advantage of Twitter use is that] everyone posts one place so everyone can see what's going on.* (CP2_2, line 22-23).

  (ii) In addition, another attribute is that such openness leads to a sense of cohesion, or as one participant (AP4_2. line 50) put it:

  - *[Information] sharing tussen colleagues help dat almal weet wat aangaan.*
  - *([Information] sharing between colleagues helps everyone to know what is going on.)*

To activate the participant's comments above, one way in which a Twitter account could be set up is to have Twitter posts blind carbon copied (bcc) in an Email to automatically post to the business's Twitter timeline. This would help users to post to the timeline easily and at the same time maintain control over what is public and what is private.

To conclude, given all the information gained through this study this researcher believes that combining Twitter and Email is currently the best solution to leverage the advantages of both platforms. The section below presents a brief research overview of this research study.

5.3 Research Overview

In this section a brief research overview is provided through a brief summary of each chapter in this research study. In Chapter 2 the researcher presents the literature review, focused around the main interest points of this study and, in so doing, lays the foundation on which the rest of the study could be built.

The research design and data collection methods and instruments are presented in Chapter 3. This combination of research methodology, data collection methods and instruments allows for the necessary data to be collected which in turn enables the main research question and two sub-questions to be answered.

In Chapter 4 this researcher provides the demographic characteristics of the sample first then the overall findings. The chapter is structured by first presenting the above-mentioned details for the quantitative data and then doing the same for the qualitative data.

Lastly, in Chapter 5, the research findings from Chapter 4 are explored to address the research question, sub-questions and objectives of this study. The researcher's recommendation and the limitations of the research are also presented. In the last section the researcher suggests the possible directions for future research. The section below summarises the research study.

5.4 Research Summary

This study was conducted at small businesses in the Western Cape of South Africa. The theoretical foundation of the TAM and UGT from a pragmatic viewpoint was used to drive the study. A mixed method data collecting strategy was employed which involved collecting data through questionnaires (122 fully completed questionnaires was collected and analysed) and semi-structured interviews (fifteen participants from three businesses were interviewed).

Data analysis was done through statistical analyses of the questionnaire data in combination with manual thematic analysis on the interview transcripts. The results were presented and triangulated to improve validity of the answers to the research questions. In the section below the researcher presents the contributions of this study to the knowledge currently available in the literature.

5.5 Research Contributions

The purpose of this research was to shed further light on the role microblogs can play in knowledge sharing within businesses. The study focused on the use of Twitter in small South African businesses in the Western Cape to determine if Twitter can be an appropriate knowledge sharing platform.

The literature review, presented in Chapter 2, revealed a gap in the literature which the researcher intended to fill with this research endeavour. The main aspects for investigation were the impact of using a knowledge sharing platform for a business as a whole (Adamovic, Potgieter & Mearns 2012; Leonardi & Treem 2012; Vuori & Okkonen 2012) as opposed to focussing on only one team within a business.

Another aspect was the perceieved unfamiliarity of Twitter usage for participants. At the time of this study this view should have dissipated as the platform has been around since 2006 (Zhang, et al. 2010).

This researcher believes the study accomplished the following:

- Made a contribution to fill the gap, identified in the literature, to include businesses as a whole, rather than placing the focus solely on one unit within a business.
- The timing of the research as recommended in the literature was considered ideal after the novelty of Twitter had dissipated.
- This researcher proposed, in section 5.2 above, to leverage Twitter as knowledge sharing platform in small businesses whereby Twitter does not replace but rather supports traditional knowledge sharing platforms such as Email.
- This study gave a current snapshot of Twitter and Email usage in small businesses and found that Email is still the main platform being used due to its familiarity with users which could be difficult to change.
- Participants were willing to give Twitter a try and enjoyed using the platform, but were unwilling to fully embrace Twitter as Email works well and for them, accomplishes the tasks at hand.

5.6 Research Limitations

The researcher identified the following three limitations of this study:

- **Longitudinal effects.**

  The time to conduct the research study was limited by the 'due date' which was enforced by the submission of this research study for examination. As such, this study can only be considered a current view of how users see Twitter and Email. With the passage of time, an internet application platform such as Twitter will change and these changes might influence users' opinions of the platform (Fieseler, Meckel & Ranzini 2014).

- **Sample size.**

  The sample size of this study could be considered a limitation as it was small. However, it should be noted that the aim was not to generalise the information but rather to explain and expand the knowledge on the specific cases involved in the study (Blanche et al. 2006).

- **Self-reported data.**

  When using self-reporting data collection instruments the participants read the question and provide a response without the researcher's involvement. The method also enables the participants to explain and discuss their emotions and points of view. Thus methods such as questionnaires and interviews fall into this category. However, this self-reported data carries a caveat for bias. Connelly (2013) places bias into four distinct categories, namely:

  - ***Selective memory***. Participants may not be able to recall all the details from experiences which happened in the past.
  - ***Telescoping***. Participants may also not be able to place events in the correct timeline and recall details out of order – a detail which might be crucial in the specific research study
  - ***Attribution***. Participants may link and recall positive situations of their own doing, whereas negative situations are linked to external forces
  - ***Exaggeration.*** Participants may exaggerate situations to portray a more significant outcome

5.7 Recommendations for Future Research

The researcher identified the following avenues which could be pursued by future researchers and studies.

- The sample size could be increased to include more participants. This would generate data which can be generalised through statistical analysis.
- The time period in which users experimented with the Twitter platform was limited due to the time restraints placed on the researcher. This can be increased to allow users a longer time to get accustomed to new platforms that might allow users to pick up nuances previously missed.
- The researcher also suggests that research is launched to investigate whether a social media platform, such as Twitter, could be integrated with Email to enhance the latter platform's usage.
- Further research could be done to analyse the Twitter timeline of the business to identify possibilities for process improvement or to identify recurring problems. This can be done using a tool such as Social Network Dynamics (SONDY) as proposed by Guille et al. (2013). The SONDY tool is an open source facility used to analyse the social dynamics derived from data in social networks.

5.8 Conclusion

This chapter discusses the findings in terms of the research questions posed in this study. Each question is answered and explored by the researcher by using the data presented in the previous chapter and triangulation is used to improve the reliability of the conclusions. The researcher also provides recommendations on the basis of the above-mentioned information. This is followed by a summary of the study conducted, the contributions of the study and proposed avenues for future research. Lastly the research limitations are discussed. The references below acknowledge the research done by all other authors which were cited in this document.

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Annexure A: Interview transcripts

Business A

Interviewee: Participant 1, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/7/2017

I: Baie dankie vir jou tyd. Ek gaan in Engels vir jou die vra vra maar jy kan maar in Afrikaans antwoord.

B: Goed

I: Jy kan maar net vir my se as jy meer duidelikheid soek oor wat presies die vraag gaan. Maar daar is basiese vier goed wat ek wil weet - hierde gaan alles oor net jou daaglikse gebruik van Email. Die vier vra waarop dit fokus is: Wat is die need, hoekom moet jy Email he, so met ander woorde wat is die need wat Email aanspreek. Hoe gebruik jy dit om daai need te vervul? En dan wat is die advantages daarvan en dan ook wat is die disadvantages. So net om te begin. In which department do you work and what are some of your main job functions?

B: Okay, so seker maar management

I: Goed

B: En, main functions is costings, contracts, job co-ordination. Dit is my belangrikste take. Daarna gaan dit maar oor cash flow en draws.

I: En dan, how did you realise that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? So met ander woorde watse spesifieke needs was daar, hoekom het jy nie dadelik na 'n ander platform gegaan in plaas van Email nie?

B: Ja, ja Email is baie algemeen. En dit is vinnig en indien nodig is dit traceable. En, dit is baie effektief vir filing en rekord keeping of achieving purposes.

I: En voel jy wat traceability aanbetref, as jy byvoorbeeld na 'n hof toe moet gaan of so iets dink jy Email is…

B: Ja, ja it's [Email] contractual. So dit is goed vir kontrakte, ons vat 'n Email antwoord ook as ja, so as 'n official contract, en record keeping storage van Email en data.

I: Okay, was Email van die begin af wat julle gebruik het?

B: Ja, wel van Email in gekom het

I: Ja

B: Ons is voor Emails

I: En dan voor Email is dit gewees soos mondelings, face-to-face meetings?

B: Ja, kyk voor Emails was daar faks gewees. Ons het kontrakte deur gefaks.

I: Okay, so faks was eintlik die hoof komunikasie middel.

B: Ja

I: Okay en dan, how are you using Email as a knowledge sharing and collaboration tool?So

met ander woorde as jy dink ooor Email is daar sekere tools wat vir jou baie hulpvaardig is? Byvoorbeel. Die kalender om vergaderings uittestuur?

B: Persoonlik gebruik ek nie calender baie nie, van my kliente doen en ek accept maar net. Vir my die knowledge sharing gedeelte daar van is as [Persoon x] iets nodig het op site, kan ek die kant op 'n Email in zoom op 'n plan en vir hom n'n snapshot terug Email met my terugvoering.

I: So ja dis die volgende punt, die goed wat jy normaalweg share is natuurlikteks, die kontrakte ens. Stuur julle ook byvoorbeeld internet links of fotos?

B: Yes, ja, baie links vir kliente. Data of plane of opdragte na sites toe. Omdat [Persoon x] altyd sy foon by hom het.

I: En dan sal jy as daar probleem is wat jy moet uitsorteer of debateer met iemand, sal jy na Email gaan daarvoor?

B: Dit hang van die klient af, maar 80% daarvan is op Email om 'n bewys te he.

I: En dan se maar jy moet met jou werknemers iets op neem?

B: Mondelings.

I: En dan, jou mense gebruik selfoon, en PC enigiets anders?

B: Ons gebruik meesdal fone.

I: Okay, so hierdie volgende punt is basies fiesiese advantages of gratifications wat jy kry uit die gebruik van Email.

B: Gerief

I: Byvoorbeeld. As jy dit direk vergelyk met skype?

B: Ek sal eerder Email.

I: Hoekom?

B: Ek, ons, is net meer gemaklik met Emails.

I: Sou jy se die gemaklikheid kom van die program self as (UI) of julle geskiedenis daarmee?

B: Ja wat, ons sal op Email bly wat ons is gewoond daaraan.

I: En dan die laaste een, as jy nou dink aan jou huidige sisteem met Email. Wat is die hoof disadvantages daarvan of enige negatife impaks wat dit het op jou en jou besigheid?

B: Ja as ek na die hardware self moet kyk is die major disadvantage dat jy nie van binne die program af kan backup nie.

I: Okay so archiving backup

B: Vir backup moet jy external gaan.

I: En dit kos dan weer tyd of geld…

B: Ja, ja daar is sovel progamme wat self file backup het. Email het dit nie, die ander nadeel is dat jy maklik iemand kan misverstaan. Die lack of emotion op Email dis hoekom ek met personeel eerder face-to-face praat.

I: Okay, en dis dit vir die Email gedeelte, enige vra of onduidelikheid nie?

B: Nee wat.

I: Baie dankie

B: Dankie

Business A

Interviewee: Participant 2, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/7/2017

I: Dankie vir jou tyd. Ek gaan in Engels vir jou die vra gee, maar jy kan in afrikaans antwoord.

B: Okay

I: Die vier hoof goed wat ek wil weet, let wel dit gaan net oor epos vir nou. Wat is die need daarvoor in jou daaglikse gebruik, hoe gebruik jy dit om daai need aan te spreek en dan wat is die advantages en disadvantages daarvan.

B: Okay

I: Okay, in which department doo you work and what are some of your main job functions?

B: Dit is maar accounting

I: Okay

B: En ja recons, dt and ct, payments

I: Okay, how did you realise Email could be used for your work purposes specifically knowledge shairng and collabroation tool? Met ander woorde hoe het jy besef dit is die platfrom wat jy will gebruik om die kommunikeer met ander mense in die besigheid of met kliente? Bo oor byvoorbeeldSkype of hoekom bel jy hulle nie?

B: Epos is vir my lekker omdat jy iets op papier, op rekort het en dis seker maar die main rede

I: So basies net vir daai feit dat jy rekort het vir wat gese word en wat gedoen word?

B: Ja

I: En nou as ons kyk spesifiek hoe jy dit gebruik. How do you use Email as knowledge sharing and collaboration tool? Met ander woorde watse funksies staan uit vir jou?

B: Ek dink maar net dat jy kan folders skep per klient of per verskaffer, om rekord te hou.

I: Okay goed, watter tiepe media deel jy normaalweg op Email? Byvoorbeeld text of foto's ens.

B: Ja, vir my stuur ek hoofsaaklik 'text' en fakture soos pdfs of photos van betalings.

I: En dan nou se maar jy sit vas met iemand sal jy vir hulle op Email laat weet, of bel of inkry?

B: Ek probeer eers Email, en daarna bel, maar Email is my keuse.

I: Werk Email meeste van die tyd?

B: Ja, 90% van die tyd.

I: Jy gebruik jou rekenaar? Geen foon of tablet?

B: Ja, net rekenaar.

I: Okay, nou as ons kyk na what are the advantages or gratifications experienced in the use of Email?

B: Die rekort hou, is maar die groot storie. En die feit dat ek vining kan soek vir ou Emails is ook ‘n groot voordeel vir my.

I: As ons kyk na die ervaring wat jy het as jy epos gebruik, is dit vir jou lekker? Maklik om te gebruik? Of sal jy eerder iets will he soos byvoorbeeld skype?

B: Nee, dit werk vir my

I: Die laaste een, what are the disadvantages or negatiewe impakte in the use of Email?

B: Hulle kan my ignore met Email, maar nie face-to-face nie of as ek bel.

I: Baie dankie, dis dit.

B: Dankie

Business A

Interviewee: Participant 3, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/7/2017

I: Okay, laat ons begin. Baie dankie vir jou tyd. Ek gaan in engels vir jou die vra vra maar jy is welkom om in Afrikaans antwoord.

B: Okay, dis regso.

I: Die hoof doel van die onderhoud is om vier hoof punte vas te stel. Die vier vra waarop dit fokus is as volg.Wat is die need spreek dit aan. Hoekom moet jy dit he. Hoe gebruik jy dit om daai need te vervul. En dan wat is die advatages daarvan en ook wat is die disadvantages. Jy kan my enigetyd vra indien jy meer inligting of duidelikheid will he oor 'n vraag. So laat ons begin. In which department do you work and what are some of your main job functions?

B: My hoof funksies is quality control by ons sites en progress management van ons projekte.

I: Okay, vir die volende vraag, how did you realise that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? So met ander woordewatter spesifieke needs was daar.Hoekom het jy nie na 'n ander platform gegaan nie in plaas van Email nie?

B: Ek het Email altyd gebruik vir persoonlike goed so ek was gemaklik daarmee. Dit is verstaanbaar en ek weet hoe om dit te kry wat ek wil doen sodat ek my werk kan afhandel.

I: En dit is wat jy van die begin af gebruik het hier by die werk ook?

B: Ja, ek gebruik ook baie wWhatsapp omdat ek baie uit kantoor is en dit makliker is as Email vir my en vinniger.

I: Goed. Next, how are you using Email as a knowledge sharing and collaboration tool? So met ander woorde as jy dink oor Email is daar sekere funksies wat vir jou baie hulpvaardig is? Byvoorbeelddie calendar om appointments uittestuur?

B: Soos ek gese het gebruik ek meesdal Whatsapp maar ek gebruik Email om goed op papier te he veral as kliente veranderinge of iets will he op site.

I: Stuur jy ook byvoorbeeld internet links of fotos?

B: Net basiese goed soos teks nie rerig iets anders nie.

I: Sal jy as daar probleem is wat jy moet uitsorteer of debateer met iemand, sal jy Email gebruik daarvoor?

B: Ek sal nie rerig will betrokke raak nie. Ek sal eerder laat hulle inkom kantoor toe sodat ons dit kan uitklaar met al die partye by.

I: En dan, wat gebruik jy om jou Email te kyk? Byvoorbeeld selfoon, PC, enigiets anders?

B: Meesdal my selfoon en rekenaar, en soms my laptop as ek 'n lang epos moet tik en ek is nie by die kantoor nie.

I: Okay, wat is die advantages of gratifications wat jy kry uit die gebruik van Email?

B: Dit is meer efficient.Ek kry dinge en inligting vinniger by mense uit en kry vinniger opdragte vanaf [Person x] om wat om te doen, veral as ek op site is.

I: Wat is die hoof disadvantages van Email of enige negatiwe impak wat dit het op jou? In die gebruik daarvan?

B: Nee, niks waaraan ek kan dink nie. Of weldit is moeilik om te weet was iemand bedoel oor Email en dit kan problem veroorsaak met ongelukiige kliente.

I: So dit is moeilik om emosie deur te gee op Email.

B: Ja, en dit kan maak dat mense kwaad raak of dink jy is kwaad vir hulle.

I: Natuurlik ek verstaan, okay, enige vra of iets wat jy nog will by las?

B: Nee dit is reg dankie.

I: Dan is ons klaar, baie dankie

Business A

Interviewee: Participant 4, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/7/2017

I: Okay, so net om te begin in which department do you work and what are some of your main functions? So met ander woorde wat is jou funksie vir die besigheid?

B: My funksies is estimation en buying.

I: Okay

B: Dan wat my fuksie nog betrek is, ek werk vir die kliente uit die material en labour om die plan van 'n gebou te bou.

I: Okay

B: En dan buying om metrial aankope te doen. Teen die regte prys en sorg dat dit op die regte tyd op site is.

I: Ouright, dis 100% en dan, how dit you realise Email can be used for your work purposes, so met ander woorde hoekom het jy nie gegaan en gese, okay ek gaan nie Email gebruik nie ek gaan al my kliente bel nie?

B: Op die einde van die dag, is Email 'n goeie tool om te he in term van ‘he said’, ‘she said’ tiepe van ding...

I: bewys...

B: Ja, Email is 'n hard copy en dit is proof

I: En dan het jy enigsins iets anders gebruik voor Email? Of was dit die eerste tool wat jy gebruik het?

B: Voor dit was dit maar net notas neem in my nota book, maar dan is dit nou jou hand geskrywe bewys wat jy het terwyl Email het tyd en alles soos dit.

I: En jy het nooit soos kliente gefax, of postukke gestuur nie?

B: Ek het nog nooit faks gebruik.

I: En dan, hoe gebruik jy Email huidiglik?As ek se hoe, is daar enige funksies in Email wat vir jou uitstaan wat jy gebruik soos adresslyste om klomp kliente saam te epos of kalender? Enige sulke funksies?

B: Funksies wat ek het uit my Email is folders per klient. Dan as ek 'n klagte kry kan ek direk soontoe gaan.

I: So dit help met organisasie?

B: Ja dis reg.

I: As jy met klinte praat nou op die oomblik, stuur jy net 'n Email met soos teks?Of is daar ooit fotos by of pdfs?

B: Daar gaan excel sheets, pdfs, en dan dis maar basies die algemeen.

I: Wat is op die pdf? En excel?

B: Dit is maar net die bill of enquiry

I: Ouright, en dan se maar nou jy sit vas met n' klient oor 'n saak. Sal jy laat hy inkom, bel of wat is jou opsies?

B: Dit hang af hoe hy vir my gekontak het. As hulle my telefonies kontak, dan bel ek hulle terug, andersins Email.

I: As jy nou 'n baie ongelukkige klient het sal jy hulle will bel? Of Email of inkry?

B: As hy baie ongelukkig is, sal ek hom will inkry waar ek en hy en [die eienaar] kan saam sit.

I: En dan huidiglik as jy Email gebruik, het jy dit op jou foon ook?

B: Nee, net op die pc hier

I: Nou as ons spesifiek kyk na advantages or gratifications experienced in using Email, met ander woorde wat is vir jou voordelig en lekker maak teenoor om byvoorbeeld iemand te bel?

B: Man ek sal, vir my is telephonies eintlik beter want dan hoef ek nou nie te scan en mail en al die goete nie

I: So dit spaar moeite om te bel?

B: Ja, maar op die einde van die dag is dit lekker om te kan tret hou as daarnou 'n gesprek met 'n klient is, dan weet ek as daar 'n query kom kan ek net terug gaan na die Email en 'n tyd trek en dan so bewys wat gese was.

I: So dis beter om n Email te he want daai bewys is reg

B: Ja

I: Is daar enige funksie wat lekker is op Email teenoor bv skype?

B: Wat vir my uitstaan en wat beter is as skype,vir my is ek moet navorsing doen op 'n sekere produk datek 'n foto kan deur mail en se ek soek dit in die kleur en daai vorm.

I: So dit maak 'n maklike komunikasie lyn oop

B: Dis hy, dis reg

I: En dan, se maar jy moet goed in die hande kry byvoorbeeld 'n spesifieke tafel of iets wat 'n klient vereis?

B: Vir my mail ek dit na verskillende mense toe...

I: Dan kyk jy wat terug kom

B: Dan bcc ek almal...

I: So dis vinniger want jy kan vir klomp mense gelyk Email?

B: Dis reg, ja.

I: Okay, dan nou presies die teenoorgestelde as jy dink oor jou Email gebruik is daar enige disadvantages of iets wat nie lekker werk nie?

B: Vir my wat nie lekker is nie, spam. Viruse word maklik oorgedra.

I: Ja, dis 'n groot probleem. As jy nou spesifiek kyk na hoe jy dit gebruik, is daar enige iets soos jy sukkel om n funksie te kry?

B: Nogals nie

I: So jy hou daarvan soos dit is.

B: Ja.

I: En dan as ons kyk na spesikiek vergelyk met 'n klient voor jou of jyt hom op die foon. Is daar iets lekkerder daaraan as per epos?

B: Vir my is dit altyd lekker om 'n klient voor my te he, want ek kom van sales af...

I: So dis lekkerder vir jou...

B: En hou van kontak met die kliente.

I: So jy sal altyd verkies om direk met die klient te praat, jy kan meer optel?

B: Ja, dis reg, dis reg ja en ‘n verhouding bou

I: Ja, dis gaan ook seker oor 'n verhouding veral as jy weer wil koop by hulle

B: Ja dis reg

I: Okay dankie, ek dink dis dit.

B: Okay, dankie

Business A

Interviewee: Participant 5, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/9/2017

I: Okay, net om te begin in which do you work and what are some of your main job functions. So met ander woorde jou werks titel?

B: Ja, okay ek, ek werk in die rekenkunde afdeling...

I: Okay, so finansies.

B: Finansies en meeste wat ek maar doen is om fakture te pos, te match en te pos teen hulle delivery notes en orders.

I: Okay, en dit word met die hand gedoen? Of het julle 'n program om dit te doen?

B: Ons het 'n program

I: Okay

B: Om dit te pos natuurlik

I: Ouright, die vier goed wat ek eintlik wil he uit die onderhoud uit is: hoe gebruik jy Email en dan ook wat is die voordele daarvan vir jou en ook wat is die negative aspekte daaraan. Dit is die vra, eintlik al wat ons gaan bespreek.

B: Okay

I: How did you realise Email could be used for your work purposes? So met ander woorde,hoekom het julle op Email besluit as platform?

B: Ek gebruik dit basies om invoices aan te vra.

I: Van kliente af?

B: Van die kliente af ja, omdat die pos te lank vat

I: En dis onbetroubaar

B: Ja, en ook rekening state aan die einde van die maand vra ek die state aan om die invoices te match en te rekonsilieer

I: So, die state wat jy aanvra is dit vanaf die...

B: Verskaffers

I: Van die verskaffers af, en dan stuur julle ook vir die kliente die fakture?

B: Kyk ons het mos nou nie eintlik 'n debtor department nie.

I: Okay.

B: Ons het eintlik net 'n creditors department, wat ek nou doen. Die kliente werk meestal met die bank met trekkings

I: Okay, ouright.

B: Email, is vinniger en jy het 'n bewys van jou vraag wat jy die persoon gee. Partykeer is daar 'n navraag oor 'n krediet, dan kan jy vir hulle Email en verwys terug na ‘n vorige Email. So dis ‘n groot positief.

I: Dit loop in die volgende vraag, as ons kyk hoe jy dit gebruik spesifiek vir daai twee hoof funksies om die inligting by hulle te kry of om meer uittevind daaroor. Doen jy ooit enigiets soos byvoorbeeld dat jy fotos of iets moet rondstuur? Of enige sulke tiepie materiaal? Of is dit letterlik net teks.

B: Nee, ek stuur nooit foto's, wat werk aan betref nie.

I: Ja, ek praat nou net spesifiek van werk.

B: Geensins fotos.

I: Okay, en dan sal jy ooit, se maar jy sit nou met 'n probleem met 'n kredituur of iets wat nie lekker is nie, sal jy op Email dan met hulle begin korrespondeur teen oor byvoorbeeld om te bel?Of sal jy eerste gaan na bel toe?

B: Ek bel gewoontlik sodat ek weet ek praat met die regte persoon.

I: Okay

B: En dan bevestig ek my oproep met 'n e-pos.

I: Dit maak sin, so die eerste opsie is altyd bel net om seker te maak jy het die regte kontak persoon beed?

B: Ja

I: En dan, sal jy ooit verkies om iemand in person te sien?

B: Nee

I: Okay, en dan op watter hardeware gebruik jy Email? Jou foon, rekenaar ens?

B: Ek gebruik net die rekenaar, hier by die werk.

I: En dan is daar enige funksies in die Email wat jy spesified gebruik, soos kom ons se address lyste wat jy opstel dat jy almal gelyk kan epos of kalender entries?

B: Nee, glad nie…

I: Of is dit net basiese gebruik

B: Ja, want jy werk maar met elke krediteur op sy eie met hulle persoonlike probleem of watokal

I: So dit nie laat jy klomp saam kan uitstuur nie?

B: Nee, en ek het dit nognooit nodig gehad nie.

I: Okay, en jy gebruik ook nie kalender vir soos notas of enige iets? Dis letterlik net stuur en ontvang van epos

B: Ja, letterlik net so

I: Dis reg. Nou as on spesifiek kyk na voordele of advantages van hierdie stelselsoos dit huidiglik staan, of iets wat vir jou lekker is daarvan?

B: Met die Email?

I: Ja, met die Email. So as jy byvoorbeeld Email direk vergelyk met as 'n krediteer byvoorbeeld voor jou sal sit en so sal praat. Wat is vir jou lekkerder van Email?

B: Wel, die feit dat jy 'n bewys het

I: So daai tracking...

B: Van jou gesprek, ja, die tracking is vir my baie belangrik

I: Is daar enigeiets van die program wat lekker is of wat vinniger werk of wat jou help om jouself georganisaeerd te hou, byvoorbeeld. Maak jy folders in jou Email om goed in te stoor vir 'n sekere klient, of is alles net in jou inbox?

B: Ja, alles is in my inbox want gewoontlik het jy net'n probleem, jy sorteer hom uit. So as die query gehanteer is en jy sien hy is reg op die volgende maand se staat dan is hy afgehadel.

I: Okay, en dan die laaste vraag is net as ons nou net kyk na presies die teenoorgestelde is daar enigeiets wat jy wens jy kon gehad het op Email, wat jy makliker...

B: Wat my werk sou makeliker maak?

I: Ja, en ook wat se maar jy se as jy bel weet jy dit is die regte persoon. Dit is 'n voordeel van bel oor epos. Is daar enige iets anders soos dit wat epos kortkom?

B: Ja nee wat kyk al wat ek net vind is dat as iemand vir my 'n invoice Email. Ek het nie noodwendig kontak met die mense nie, totdat daar 'n probleem kom. So as iemand vir my 'n epos stuur met n invoice dan weet ek nie altyd of dit die persoon is wat my sal kan help nie. Dis hoekom ek nie altyd net reply op daaardie epos nie.

I: Ja. so dit sou goed gewees het as Email n manier gehad het om seker te maak jy het die regte kontak persoon beed en dat jy dadelik met hom in verbinding kan tree?

B: Ja, dan weet jy hulle gaan na jou terug kom

I: Okay, dis dit. is daar enige ander comments oor Email?

B: In my oe is dit 'n groot voordeel en dit spaar op papier want ons het altyd invoises gepos gehad.

I: Ja, dit maak sin. Baie dankie

B: Plesier

Business A

Interviewee: Participant 1, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/13/2017

I: Dankie vir jou tyd. Die onderhoud se funksie is om meer uittevind oor hoe jy en julle as besigheid die gebruik van Twitter oor die afgelope tyd ervaar het. Weereens gaan ek in engels die vrae vrae, jy is welkom om in Afrikaans te antwoord en my te vra indien jy meer inligting wil he.

B: Okay.

I: Eerstens, how are you using Twitter as a knowledge sharing and collaboration tool?

B: Wel, ons het dit gebruik om meer inliting van ons bedryf te kry en ons kliente. Ons kon sien as daar nuwe aanbiedings is wat ons dalk in belangstel of mee sal kan help.

I: Goed, en die soek funksie.

B: Ek voel meer gemaklik met google en voel die resultate wat ek kry is beter en meer gelowaardig om aan testuur aan my kliente.

I: Ek jy met kliente of jou personeel en kolegas op Twitter gepraat?

B: Nee, dit voel nie vir my professioneel genoeg om dit te doen nie. En ons huige sisteem met Skype en Email werk perfek om kort boodskappe vir mekaar te stuur of te los.

I: Goed dan, how do you feel about becoming Twitter 'followers' with your clients or employees?

B: Ek stel nie daaraan belang nie. Ek wil nie persoonlike inligting of goed in my kaantoor lewe meng nie. Die werk moet by die werk bly en die huis by die huis, as jy verstaan wat ek bedoel.

I: Ja, dit maak sin. Sou jy se dit is die platform Twitter self wat dit persoonlike maak.

B: Ja, dit voel soos 'n 'game' en is nie profesioneel vir my nie.

I: What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Twitter is great om inligting te kry wat ek nie andersins sou sien nie. Ek is nie heeltyd op die internet nie, maar om vinnig op Twitter te gaan en te mense wat ek volg se goed te sien help om nuwe inligting vinnig by my te kry.

I: Goed, en how do you feel about using Twitter during working hours?

B: Dit is maar moeilik. Ek het nie 'n probleem daarmee asdit vir besigheids doeleindes is nie, maar ek kan dit nie beheer nie. Mense mag dalk aan die gesels gaan.

I: When using Twitter as a knowledge sharing and collaboration tool, do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Nee, ek kan die twee ding uitmekaar hou. As ek werk, dan werk ek.

I: Okay, can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Ons kry ook baie inligting wat nie relavant is nie dit is moeilik om te filter.

I: Okay, laaste een. What are your thoughts on how employees or employer can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek is nie seker nie. Ek dink ons sal dit langer moet gebruik.

I: Baie dankie, het jy enige ander opmerkings?

B: Laat ek dit so stel, with Email and WhatsApp operating well, we do not have much need for Twitter apart from little general knowledge what people post that we are following.

Business A

Interviewee: Participant 2, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/13/2017

I: Weereens dankie vir jou tyd. Die doel van die onderhoud is om net te hoor hoe jy Twitter oor die afgelope tyd ervaar het. Ek gaan weereens gaan ek in Engels die vrae vrae, maar jy is welkom om in Afrikaans te antwoord en my te vra indien jy meer inligting wil he.

B: Okay.

I: Laat ons begin. How are you using Twitter as a knowledge sharing and collaboration tool?

B: Ek het links gestuur na interessante websites toe. Dit was lekker want almal kon dit daar sien en ek kon ook terug gaan en dit kry.

I: How do you feel about becoming Twitter 'followers' with your clients or employees?

B: Dit pla my nie. Ek dink nie daar is 'n risiko daaraan nie.

I: What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Dit [Twitter] is lekker om te gebruik en soos ek gese het dis lekker om alles op een plek te he, maar dit is maar nog nuut vir my.

I: How do you feel about using Twitter during working hours?

B: Ek mag dit gebruik. Ek sien nie 'n probleem daarmee nie.

I: When using Twitter as a knowledge sharing and collaboration tool, Do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Ja, maar ek dink nie dis so groot probleem nie. Dis nie asof ek my werk net so los en net op Twitter is nie. As daar meer belangrikke goed is sal ek my aandag daarop vestig.

I: Okay, can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Al ons kliente is nie daarop nie.

I: En dan laastens. What are your thoughts on how employees / employer can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek is nie 100% seker nie. Ek dink mens sal dit langer moet gebruik om rerig te weet hoe dit die beste vir jou situasie gaan werk.

I: Baie dankie, het jy enige verdure komentaar hieroor?

B: Nee

Business A

Interviewee: Participant 3, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/13/2017

I: Die doel van die onderhoud is om vas testel hoe jy die gebruik van Twitter ervaar het. Ek gaan in engels die vrae vir jou stel maar jy is welkom om in Afrikaans te antwoord.

B: Okay.

I: How are you using Twitter as a knowledge sharing and collaboration tool?

B: Ek kon nie rerig 'n lekker gebruik vind daarvoor nie. Niks het vir my uitgestaan bo byvoorbeeld Email nie.

I: Ek jy met kliente of jou personeel, kolegas op Twitter gepraat?

B: Nee, ek verkies om te bel om net na hulle toe te stap, of natuurlik Email.

I: How do you feel about becoming Twitter 'followers' with your clients or employees?

B: Ek dink nie dis reg nie en ek voel ook nie gemaklik daarmee nie. Twitter voel vir my soos Facebook jy moet dit net vir jou friende en familie gebruik.

I: What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Daar was nie vir my enige voordele nie.

I: How do you feel about using Twitter during working hours?

B: Ek dink dit gaan net aandag aflei.

I: When using Twitter as a knowledge sharing and collaboration tool, do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Nee, ek het opgegaan so paar keer om te kyk wat daar aangaan maar dit is dit.

I: Can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Nie wat dit vir my aanbetref nie. Die huidige systeem van Email en bel ensovoorts. Werk perfek vir my en ek dink nie Twitter gee enige voordeel wat maak dat ons dit moet gebruik nie.

I: What are your thoughts on how employees / employer can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek is nie seker nie.

I: Okay. baie dankie, het jy enige vrae?

B: Nee

Business A

Interviewee: Participant 4, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/13/2017

I: Dankie vir jou tyd. Vir die onderhoud wil ek basies net vastel hoe jy Twitter gebruik het die afgelope tyd en hoe dit vir jou was.

B: Goed.

I: Laat ons begin. How are you using Twitter as a knowledge sharing and collaboration tool?

B: Hoofsaklik gebruik ek die messaging funksie.

I: En wat deel jy gewoontlik met die mense in messaging funksie?

B: Meesdal oor die projekte waarmee ek besig is. Dit is lekker want dan weet almal waarmee ek besig is en waar ek is.

I: Wat het jy geobruik om Twitter op te gaan?

B: Laptop en desktop by die werk.

I: Goed dan, how do you feel about becoming Twitter 'followers' with your clients or employees?

B: Informasie is personelike en ek wil dit nie met kliente deel nie. Ek sal Twitter net gebruik as ek weet dit is toe gemaak en private soos dit hier ingestel was.

I: What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Knowledge sharing deur Twitter reach baie meer mense, en ek kan ook meer mense reach as wat ek net met mense om my of my skype contacts praat.

I: Dit maak sin. How do you feel about using Twitter during working hours?

B: Ek mag dit gebruik en ek het dit gebruik. Ek dink dit is 'n goeie ding om te he.

I: When using Twitter as a knowledge sharing and collaboration tool, Do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Nee. Ek het dit net in my vrye tyd gebruik.

I: Can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Nee ek dink soos ek gese het as dit gebruik word in 'n private of 'toe' omgewing soos dit nou hier by ons werk is dit okay.

I: What are your thoughts on how employees / employer can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek dink die [information] sharing tussen colleagues help dat almal weet wat aangaan op die jobs. En dit is ook lekker as die sleutel persoon nie by die werk is nie dan kan almal gaan kyk op Twitter en weet wat moet gebruik en of daar iets fout gegaan het. Dan kan ons die kliente beter help.

I: Baie dankie, enige vra?

B: Nee

Business A

Interviewee: Participant 5, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/13/2017

I: Dankie vir jou tyd. Met die onderhoud wil ek wil net hoor hoe jy Twitter se gebruik ervaar het die afgelope tyd?

B: Okay.

I: So net om te begin. How are you using Twitter as a knowledge sharing and collaboration tool?

B: Ek het maar net daarop gegaan en gekyk wat gepost word.

I: So jy het nie self gepost nie?

B: Nee. Ek voel nie gemaklik met die program nie.

I: How do you feel about becoming Twitter 'followers' with your clients or employees?

B: Nee ek sal nie

I: Hoekom?

B: Ek voel die werksplek moet professioneel wees en Twitter is nie deel daarvan nie. Dis meer iets wat jong mense gebruik.

I: What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Daar was nie vir my advantages nie.

I: How do you feel about using Twitter during working hours?

B: Ek dink nie mens moet dit kan gebruik gedurende werkstyd nie.

I: When using Twitter as a knowledge sharing and collaboration tool, Do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Nee.

I: Can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Ek dink dit trek net mense se aandag af en dit veroorsaak dat hulle stadiger werk en net heeltyd na Twitter staar.

I: What are your thoughts on how employees / employer can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek dink nie ons kan dit rerig gebruik nie.

I: Baie dankie, het jy enige verde komentaar?

B: Nee

Business B

Interviewee: Participant 1, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/11/2017

I: Thank you for your time. Please feel free to stop me if you need clarification on any of the questions.

B: Good.

I: The purpose of this discussion is to find out more about four specific aspects when we consider your daily Email use. These aspects are: What is the need for Email in your organisation and how are you using Email to fulfil that need. And then also what are the benefits or negative impacts Email has for you.

B: Okay, good.

I: So, in which department do you work and what are some of your main job functions?

B: So, my Job description?

I: Yes.

B: Okay, I am a chief administration officer. So my responsibilities include helping the managers with their reports, scheduling leave, and other client supporting duties.

I: How did you realised that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? Did you consider any other platform?

B: Well, not sure what you mean. We have always used Email.

I: That fine, did you ever consider using any other platform? Or are you happy using Email for your duties?

B: Email is fined for me. It works well for what I need.

I: Okay, when you say it works well for you can you explain how you are using Email as a knowledge sharing and collaboration tool?

B: Well, I use it a lot for scheduling leave.

I: Do you use the calendar function?

B: No, that's a bit too complicated for me. I get the Emails from the employees requesting leave. If it is approved I use a excel spreadsheet to indicate that it has been approved and I Email the employee back to tell them their leave has been approved.

I: Are there any functions of Email that you use a lot?

B: Functions, such as?

I: Such as mail merge, calendar, read receipt...

B: Oh yes, the read receipt function. I use that a lot to have proof that I have submitted the monthly performance reports. We need to submit monthly employee performance reports to

head office so having a receipt that they received it covers me.

I: Okay, let's say you have someone who is difficult and has a problem with something. Would you engage with Email? Or phone then? And why do you use that specific platform?

B: Always Email. I find that having that 'proof' is better than being caught in a he-said-she-said situation.

I: And if there is a problem with an employee here?

B: Also Email. Again for the same reason - I want it to be clear what I said and that my words cannot be twisted against me.

I: What devices are you currently using to access your Email?

B: I use my PC here at work and my phone.

I: Okay, second last question, what would you consider the main advantages or gratifications of using Email in your work day?

B: Well I think it is the only thing we know and that everybody uses it [Email]. The whole industry uses it so it would not make sense to use something else. I also think that it is reliable.

I: What do you mean by reliable?

B: So, if you send something you can be assured they get your message or at least you get a delivery receipt to cover yourself.

I: Any other tasks or functions which you would consider advantageous?

B: Not really that I can think of.

I: Okay, and then lastly, do you have any thing you would consider a disadvantage to using Emails?

B: The only thing I can think of is that there is sometimes a problem with scheduling the leave when I am not here. I do not want to leave my Email open for all to see but this also means people are not aware of who is on leave or if there leave has been approved until I am back.

I: Thank you for your time. Do you have any further comments on this?

B: No.

Business B

Interviewee: Participant 2, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/11/2017

I: Dankie vir jou tyd. Ek gaan in Engels vir jou die vrae vra maar jy kan maar in Afrikaans antwoord. Jy is welkom om my te stop as iets vir jou onduidlik is.

B: Okay.

I: Die doel van die ounderhoud is basies om vier goed uit te find. Ek wil weet wat die need is vir Email vir jou. Hoe jy Email gebruik om dit aantespreek. En die voordele of nadele van Email vir jou. Vir die eerste vraag, in which department do you work and what are some of your main job functions?

B: My pos beskrywing is store manager. So basies moet ek kyk dat alles glad verloop by ons tak.

I: En van jou hoof funksies?

B: Ek doen eintlik maar alles. Maar ek is veronderstel om net seker te maak die bestuurders onder by doen hulle werk, dat die finansies goed lyk en ek sien ook nuwe of bestaande kliente om seker te maak hulle is te vrede met ons diens aan hulle.

I: How did you realise that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? Dus wil ek net weer hoekom jy Email gebruik en nie 'n ander platform nie?

B: Ons het maar net saam met die tyd gegaan. Van pos af, na fax, na Email. Dit is betroubaar en dit is die tegnologie wat almal gebruik.

I: Okay, how are you using Email as a knowledge sharing and collaboration tool?

B: So, hoe gebruik ek dit?

I: Ja, met ander woorde wat is die hoof funksies wat jy daarmee verrig. Schedule jy meetings op die calendar? Stuur inlitging aan werknemers? Of iets soortgelyk?

B: Oh, wel ek gebruik nie rerig die calendar nie. Ek skeduleer wel my vergaderings deur epos. En kry bevestiging van 'n afspraak deur middle daarvan.

I: En as jy 'n probleem het met een van die werknemers of kliente sal dit op Email probeer uitsorteer, of eerder bel?

B: Ek hou daarvan om eerder probleme of in persoon of op die telefoon uit te sorter.

I: Hoekom?

B: Ek is net bang ons verstaan mekaar verkeerd op skrif [Email]. Dit is beter as ek met 'n mense praat en dan is daar geen onduidelikheid.

I: Onduidlikheid in watter opsig?

B: Mens kan nie agter kom op Email of die ou nou skree of wat hy voel nie. Dalk is hy kwaad vir jou of jy kwaad vir hom maar dit is net 'n misverstand wat met 'n vinnige oproep

uitgesorteer kan word.

I: en dan, wat gebruik jy vir toegang tot Email?

B: Ek gebruik my rekenaar by die werk en my selfoon.

I: Okay dan, wat sal jy se is die hoof advantages wat Email vir jou bied? so is daar bv. 'n fuksie of aspek van epos wat lekker is vir jou om te gebruik of wat jy as voordeel beskou bo-oor 'n ander platform, byvoorbeeld WhatsApp?

B: Ek hou van die feit dat ek al my eposse kan stoor. Ek hou alles aangesien ek dit basies as bevestiging gebruik. Ons besigheids kontrakte word ook deur Email gestuur so ons het 'n getekende kopie op rekort.

I: Laastens, is daar enige ander disadvantages aan jou Email gebruik, huidiglik?

B: Dalk die feit dat niemand die kontrakte kan kry wat ek stoor in my Email nie. Ek kan nie rerig dit net oop laat dat almal my eposse sien nie want daar kom privaat eposse ook na my epos address toe.

I: Het jy enige vra of iets wat onduidelik was vir jou?

B: Nee.

Business B

Interviewee: Participant 3, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/11/2017

I: Thank you very much for your time. Please feel free to stop me if you need clarify on any of the questions.

B: Okay thanks.

I: Okay, there are basically four aspects which I want to find out more about, specifically when we consider your daily Email use. These aspects are: What is the need for Email in your organisation and how are you using Email to fulfil that need? And then also what are the benefits or negative impacts Email has for you.

B: Okay

I: So for the first questions; in which department do you work and what are some of your main job functions?

B: I am the bookkeeper, so I would say the accounting department. I am responsible for sending out invoices and looking and signing off receipts of payments which need to be made.

I: How did you realised that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? In other words why were you not drawn into using another platform?

B: It's what I grew up using and also what is used in our business and other businesses we deal with. It would not make much sense to send a fax in this day-and-age, if you know what I mean?

I: Yes definitely. Okay so if we now look specifically at how you as using Email as a knowledge sharing and collaboration tool, are there any functions which stand out are that you use a lot. For example using the calendar to schedule appointments, or something like that?

B: I use the mail merge function a lot. I take it you know what that is?

I: Yes, how do you use it?

B: I use it to send out our monthly invoices. It saves a lot of time and allows me to keep track of who has been invoiced and at which time as so on. I have folders for our clients in my Email and I use that to organise the invoices and payment receipts.

I: Would you ever use Email as platform to start a conversation of debate with a client. Let's say you have someone who is difficult and has a grievance. Would you engage with Email? Or do you prefer any other platform?

B: I always revert back to Email to sort out queries. It is the safest way to handle grievances as you can keep a record of everything that was said and at what time.

I: And if a similar situation arises within the business. Would you still use Email?

B: It depends on the person. With some employees you need to use Email to ensure

everything is in writing. But mostly I prefer to handle internal issues in person.

I: Why?

B: I have a close working relationship with most of my colleges and would like to think we can sort out any problems face-to-face. I think it would be very 'cold' to send a lengthy Email if we could just have a 10min chat, drink coffee and move on.

I: What devices are you currently using to access your Email?

B: I use my PC at work and my cell phone at home. All though I try not to access Email lat home as it is a use time sink.

I: What would you consider the main advantages or gratifications of using Email in your daily work flow?

B: I think it works, and I know how to use it. I do not have time or a drive to learn a new 'thing'. I like having the ability to organise my Emails with folders and as I mentioned above the mail merge function is essential.

I: Is there anything which you would consider a disadvantage in regard to your use of Email?

B: I would say speed and reliability. As I send out invoices and also need to receive invoices per Emails to do payments. It is a big problem if the Emails are not going out to clients and then we do not get paid. Also if I don't receive the invoices I cannot do the payments and we run the risk of getting interest added to our accounts.

I: How often does this happen?

B: Not than often, I would say once a quarter maybe - but it is a problem.

I: Okay, then lastly, do you have any further comments or questions on this?

B: Nothing from my side.

Business B

Interviewee: Participant 4, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/11/2017

I: Thank you very much for your time. Please feel free to stop me if you need clarify on any of the questions.

B: Ok.

I: There are basically four aspects which I want to find out more about, specifically when we consider your daily Email use. These aspects are: What is the need for Email in your organisation and how are you using Email to fulfil that need? And then also what are the benefits or negative impacts Email has for you.

B: Ok.

I: Right, just to start of. In which department do you work and what are some of your main job functions?

B: I am a manager in the HR office. I am responsible for hiring new people as well as constructing training manuals for new persons within the business.

I: How did you realised that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool?

B: Well, it is what we have always used. We are starting to use other tools like WhatsApp more but I do not like it. I prefer Email.

I: Why is that?

B: I don't know I just like the way Email works, and I know how it works.

I: Okay I understand. If we now look specifically at how you as using Email as a knowledge sharing and collaboration tool, are there any functions which stand out are that you use a lot?

B: We use Email to communicate in the team so that everyone knows what is going on. We setup a mailing list for all HR personnel. So you just Email to that and you know, form your side, you have let everyone know what is going on.

I: Anything else?

B: We also use Email to get the CV's of potential candidates and save that in specific folders. So everyone can get access to it for interview preparation and so forth.

I: How do they get access to your Email?

B: oh sorry, let me clarify. We have a separate Email address which only receives CV's – everyone in our team has access to that address.

I: Oh okay. And then would you ever use Email as platform to start a conversation of debate with a client. Let's say you have someone who is difficult and has a grievance. Would you engage with Email? Or phone then?

B: Email. I want to have everything black on white - no gray areas.

I: And if there is a problem between yourself and a college?

B: Email as well.

I: What devices are you currently using to access your Email?

B: I use a PC here at work. I do not like to bring work home with me.

I: What would you consider the main advantages or gratifications of using Email in your daily work flow?

B: I think it helps me communicate with the rest of my team. I like it better than other things like Skype or WhatsApp because it feels more professional, you know?

I: Yes, I understand. Any other tasks or functions which you would consider advantageous?

B: No not that I can think of.

I: Do you have anything you would consider a disadvantage to using Email?

B: Not really, the system we have here works well and I know it so I do not want to change it and have to start from scratch.

I: Okay, thank you again for your time. Do you have any further comments or questions on this?

B: Not at this time, no.

Business B

Interviewee: Participant 5, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/11/2017

I: Baie dankie vir jou tyd. Ek gaan in Engels vir jou die vrae vra maar jy is welkom om in Afrikaans antwoord. Jy kan my enige tyd stop as jy meer inligting will he of as 'n vraag nie duidelik is vir jou nie.

B: Okay, goed.

I: Die doel van die ounderhoud is basies om vier goed uit te find. Ek wil weet wat die need is vir Email vir jou. Hoe jy Email gebruik om dit te verul. En die advantages of advantages van Email vir jou. Eersens, in which department do you work and what are some of your main job functions?

B: Ek is die verkoops bestuurder. So basies moet ek net seker maak die verkoops mense onder my haal hulle 'sales targets'.

I: Goed, en dan how did you realise that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? Dus wil ek net weer hoekom jy Email gebruik en nie byvoorbeeld Skype nie?

B: Ek sal nie skype wil gebruik nie. Dit werk nie vir my lekker op my foon nie. Email werk vir my lekker en ek kan daardeur ook my afsprake skeduleer en my tyd die beste benut.

I: Okay, how are you using Email as a knowledge sharing and collaboration tool? Wat doen jy daarmee?

B: Ek gebruik dit om my skedule te beplan vir die dag en my afsprake te reel.

I: En as ons meer kyk na knowledge sharing specifiek, gebruik jy dit op so 'n wyse ook?

B: Ek copy my mense in baie van die Email so dat hulle weet waar ek is wanneer, bedoel jy soos dit?

I: Ja. Dit maak sin. En dan sal jy, as jy dalk 'n probleem het met een van die werknemers hier of kliente, dit op Email probeer uitsorteer?

B: In persoon.

I: Hoekom?

B: Ek wil net nie he daar moet 'n misverstand wees nie. Mens kan nie altyd lekker op Email 'baklei' nie. Dit is maar moeilik om te weet wat iemand dink deur net 'n Email te lees.

I: So jy kan nie maklik emosie optel nie?

B: Ja preseies.

I: Okay en dan, watter platform gebruik jy om Email te gebruik?

B: Meesdal my selfoon omdat ek baie uit kantoor is. Maar ook my laptop.

I: Wat sal jy se is die hoof advantages of selfs gratifications wat jy kry as jy Email gebruik?

B: Een van die grootste advantages vir my is die backup funksie. Ek moet al my Emails hou want ek sal soms daarop ‘n bevestiging kry van ‘n klient dat hulle ‘n diens wil he. So dit is goed om dit alles te hou as bewys as hulle later se hulle het nooit gevra daarvoor nie. En dalk betaling weier of iets in daai lyn.

I: Is daar enige ander disadvantages aan jou Email gebruik, huidiglik?

B: Mense kry dit nie altyd vinnig genoeg nie dan moet ek bel. Dit is nie rerig ‘real time’ nie so as ek ‘n dringende versoek het werk dit nie so goed nie.

I: Okay, dankie, het jy enige verdure vra of iets wat onduidelik was vir jou?

B: Nee, dankie.

Business B

Interviewee: Participant 6, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/11/2017

I: Thank you very much for your time. Please feel free to stop me if you need me to clarify any of the questions.

B: Okay, I will

I: There are basically four aspects which I want to find out more about, specifically when we consider your daily Email use. These aspects are: What is the need for Email in your organisation and how are you using Email to fulfil that need? And then also what are the benefits or negative impacts Email has for you.

B: Fine

I: First of, in which department do you work and what are some of your main job functions?

B: I work in the HR department and I am responsible for creating the new hiring's induction plans and manuals.

I: And when we consider how you realised that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? Did you consider any other platform?

B: It's the tool we have always used. I use Email mostly as platform to distribute information to new and old employees.

I: Looking at specifically how you as using Email as a knowledge sharing and collaboration tool, are there any functions which stand out are that you use a lot.

B: Like I said I send out infographic daily in regard to things like important notices, new rules or information that needs to be shared with everyone. It is also my main communication channel with new employees. If they need help or information they Email me and I respond on Email as well. It is also a good way to know if there are some processes which are problematic. I will see an influx of Emails regarding the same subject or problem which we then use to streamline the problematic process.

I: Right, would you ever use Email as platform to start a conversation of debate with a client. Let's say you have someone who is difficult and has a grievance. Would you engage with Email? Or phone then?

B: I do not mind really. It depends on my relationship with them. If we are closer then I would engage them in person otherwise via Email.

I: And if there is a problem internally in the businesses?

B: This will depend on the nature of the problem. If it is a sensitive matter and we feel the business might be at risk we will use Email.

I: What devices are you currently using to access your Email?

B: I use my desktop PC

I: Okay, what would you consider the main advantages or things you like using Email in your daily work flow?

B: Well, I like the fact that it is all centralised in one location. I can search through it and get information fast. Especially as I get the same queries from multiple people so I can forward the same response to them.

I: Do you have any thing you would consider a disadvantage to using Email?

B: Not really that I can think of. The only thing which can be a negative sometimes is that only I can access the information. This is good in a way as I do not want everyone to access sensitive material, but it is a drag if I am not in the office and someone needs information which the could have just found in my Email.

I: Okay, thank you again for your time. Do you have any further comments or questions on this?

B: No.

Business B

Interviewee: Participant 7, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/11/2017

I: Thank you very much for your time. Please feel free to stop me if you need clarification for any of the questions.

B: Right.

I: There are basically four aspects which I want to find out more about, specifically when we consider your daily Email use. These aspects are: What is the need for Email in your organisation and how are you using Email to fulfil that need? And then also what are the benefits or negative impacts Email has for you.

B: Okay

I: Okay, let's get started. In which department do you work and what are some of your main job functions?

B: I work in the HR department. I am responsible for conducting interviews and reporting the results thereof to management.

I: And when we consider how you realised that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? Did you consider any other platform?

B: I mean, it is what we, I have always used. I don't see the need for something else. Email works perfectly for me.

I: Looking at specifically how you as using Email as a knowledge sharing and collaboration tool, are there any functions which stand out are that you use a lot. For example using the calendar to schedule appointments?

B: I don't really use the calendar function, I find that it's difficult to use – for me. I send Emails with times when interviews need to take place to the people who need to be there with me. This is how I have always done it and it works so, yeah.

I: Right, would you ever use Email as platform to start a conversation of debate with a client. Let's say you have someone who is difficult and has a grievance. Would you engage with Email? Or phone then?

B: Always Email. I need time to make sure I do not say something rash. Conversing over Email, for me at least, calms the situation.

I: And if there is an internal grievance?

B: Email as well.

I: What devices are you currently using to access your Email?

B: I use my cellphone and laptop

I: Okay, what would you consider the main advantages or gratifications of using Email in your daily work flow?

B: I know how it works, and it works well for me. I would not like to learn a new program or something if I can still use Email. If that makes sense?

I: Yes, it does. Do you have anything you would consider a disadvantage to using Email?

B: No not really, it works fine for me.

I: Okay, thank you again for your time. Do you have any further comments or questions on this?

B: I am fine, thanks.

Business B

Interviewee: Participant 1, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Thank you for your time today. The main aim of this interview is for me to find out more about your experience was using Twitter the last few weeks. Please feel free to stop me if you need clarify on any of the questions.

B: Okay.

I: So how have you been using Twitter as a knowledge sharing and collaboration tool? Is there anything that Twitter allowed you to do which worked well for knowledge sharing?

B: I mostly used it to post leave scheduling. So, the times and dates of the people who have gone and also where they went. That fact that everyone could see the posts is also nice.

I: How do you feel about becoming Twitter 'followers' with your clients or employees?

B: I don't really care. But I do not think that has any place in a work environment.

I: That's fair, were there any advantages or the gratifications of using Twitter as knowledge sharing and collaboration tool?

B: I liked seeing everyone's Tweets it [Twitter] felt more 'open' than Email. With Email I could only see people who replied to me, with Twitter all replies or conversations are for everyone to see.

I: How do you feel about using Twitter during working hours?

B: It is allowed, I don't mind it.

I: Okay that good, now when you used Twitter did you fall into just looking at the 'feed' of posts?

B: Sometimes, especially if I am not that busy. But I don't think it is a problem. If I am very busy I feel no need to check Twitter.

I: What did you feel you needed to post on Twitter?

B: I did not feel I needed to post, really. I just posted what I think other could find useful.

I: Okay, can you think of any disadvantages, or negative impacts, in your experience using Twitter?

B: I think the only thing I miss from Email is the read receipt function. I had no idea if the people saw my Tweets expect if they replied. But then you get a long list of replies of people just saying, 'Noted', 'thanks', etc. This also makes things confusing.

I: What are your thoughts on how you and you colleagues can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: I think it could work well for some people, but I don't like it. I prefer Email. We could maybe use it for the leave scheduling because unlike Email everyone can see the twitter feed, but I don't trust Twitter enough yet maybe if we use it for a longer time.

I: For which people do you think it could work?

B: Maybe the younger people who already know how Twitter works. I know how Email work so I feel comfortable with it - less so with Twitter.

I: Thank you. Do you have any further comments or suggestions?

B: No.

Business B

Interviewee: Participant 2, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Dankie vir jou tyd. Die onderhoud se funksie is om meer uittevind oor hoe jy en julle as besigheid die gebruik van Twitter oor die afgelope tyd ervaar het. Ek gaan weereens in Engels vir jou die vrae vrae en jy is welkom om in Afrikaans te antwoord en my te vra indien jy meer inligting wil he.

B: Ok

I: How are you using Twitter as a knowledge sharing and collaboration tool?

B: Ek het dit probeer gebruik deur te kyk waar my mense is op watter tyd hulle het dit daarop gepost.

I: En dan, how do you feel about becoming Twitter 'followers' with your clients or employees?

B: Dit maak nie vir my saak nie. Ek dink nie ek sal kliente wil 'follow' nie.

I: Hoekom nie?

B: Ek weet nie, dit voel maar net vreemd. Ek gaan soek nie kliente op Facebook op en friend hulle nie, en dieselfde geld vir Twitter.

I: What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Ek dink wat 'n voordeel is, is dat almal alles kan sien. DIt is nie soos Email waar net een persoon kan sien wat aangaan nie. As jy iets daar post is dit vir almal beskikbaar om te sien. En niemand hou van 'n vol inbox nie so dit gee 'n goeie alternatief.

I: Goed, How do you feel about using Twitter during working hours?

B: Ek dink dit is okay. Ek sien nie dat dit 'n probleem kan wees nie.

I: When using Twitter as a knowledge sharing and collaboration tool, do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Nee, ek het net in my 'af' tyd darana gekyk.

I: Goed, Can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Wel, die feit dat ek nie beheer het oor die Twitter nie is vir my 'n nadeel. Ek kan ook nie dit stoor so maklik soos ek 'n Email kan stoor nie.

I: Okay, laaste een. What are your thoughts on how employees can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek dink dit kan gebruik word maar meer as 'n plek om interesanthede te plaas wat alal kan sien en na gaan soos skakels na webtuistes, videos ens. Ek dink nie dit is van pas om te

gebruik in ‘n professionele manier nie. Email is geintegreer in ons besigheid en dit is wat kliente verwag. Dalk sal dit in die toekoms verander.

I: Baie dankie, Het jy enige vrae van jou kant af?

B: Nee.

Business B

Interviewee: Participant 3, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Thank you for your time today. This interview's aim is just for me to find out your experience was using Twitter the last few week.

B: Okay.

I: So, how are you using Twitter as a knowledge sharing and collaboration tool?

B: I mostly posted reminders to people if I am waiting for information from them.

I: Okay and then how do you feel about becoming Twitter 'followers' with your clients or employees?

B: I don't mind it. I think that Twitter can be used in a professional manner, much like we run our Facebook page.

I: Were there any advantages or the gratifications of using Twitter as knowledge sharing and collaboration tool?

B: I like that it is fast and instant, unlike Email. I also think that it would be reliable as Twitter is not really ever offline.

I: How do you feel about using Twitter during working hours?

B: Like I said I don't mind it, I think I or we are able to use it in a professional manner.

I: Okay that good, now when you used Twitter did you fall into just looking at the 'feed' of posts?

B: No not really.

I: What did you feel you needed to post on Twitter?

B: I did not feel I needed to post anything - as I mostly work with accounts and outside clients. I did post little reminders to some of the mangers if I am waiting on information.

I: Okay, can you think of any disadvantages, or negative impacts, in your experience using Twitter?

B: For my use, sending out invoices and so forth, it did not really have any noticeable benefit. And also I found it [Twitter] a bit difficult to learn and understand. Maybe if I had more time I would become more accustomed to it.

I: What are your thoughts on how you and you colleagues can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: I think we can maybe use it as reminder system. Or send out alerts on it if there is important information that everyone needs to see.

I: Such as?

B: Let's say a water pipe broke and we will be without water for a time, things of that nature.

I: Thank you. Do you have any further remarks?

B: No.

Business B

Interviewee: Participant 4, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Thank you for your time today. This interview's aim is just for me to find out your experience was using Twitter the last few week.

B: Right.

I: Were there any advantages or the gratifications of using Twitter as knowledge sharing and collaboration tool?

B: There is nothing I would say is a big advantage over the system [Email] we have now. Twitter worked fine, but no real advantage – for me at least.

I: How do you feel about becoming Twitter 'followers' with your clients or employees?

B: That's fine.

I: How do you feel about using Twitter during working hours?

B: I don't see a problem with that.

I: Okay that good, now when you used Twitter did you fall into just looking at the 'feed' of posts?

B: Yes, sometimes. Especially if my colleagues and I started 'chatting' almost like Skype except it was open for everyone to see.

I: What was the nature of these 'chats'?

B: Nothing much, it was work related, just things we are busy with or struggling with.

I: What did you feel you needed to post on Twitter?

B: I posted the small notices I normally Email to my team, but it dint work so well as the missed some of the posts because the timeline moves so fast.

I: Okay, can you think of any disadvantages, or negative impacts, in your experience using Twitter?

B: Most of the things we do in regard to CV's, salaries and so forth are private so the open platform such as Twitter does not lend itself to that.

I: What are your thoughts on how you and you colleagues can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: I really don't know.

I: Thank you. Do you have any further remarks?

B: No

Business B

Interviewee: Participant 5 Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Dankie vir jou tyd. Die onderhoud se funksie is om meer uittevind oor hoe jy en julle as besigheid die gebruik van Twitter oor die afgelope tyd ervaar het. Ek gaan weereens in Engels vir jou die vrae vrae en jy is welkom om in Afrikaans te antwoord en my te vra indien jy meer inligting wil he.

B: Reg so

I: How are you using Twitter as a knowledge sharing and collaboration tool?

B: Ek het dit meesdal net gebruik om te se as ek uit kantoor gaan wees. Ek doen dit elkgeval op Email maar hierdie is ook ‘n lekker plek om dit te plaas dank an almal dit sien.

I: En dan, how do you feel about becoming Twitter ‘followers’ with your clients or employees?

B: Dit is nie vir my ‘n probleem nie.

I: What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Soos ek genoem het, ek dink dit werk goed dat almal kan sien as ek iets post. Dis nie soos Email wat jy dlak vergeet om iemand in te copy, en dan sine hulle nooit jou boodskap nie. Almal kan alles sien wat gepost word so almal is op hoogte as ek bv. Uit kantoor is.

I: Goed, how do you feel about using Twitter during working hours?

B: Ek is nie gepla daar oor nie

I: When using Twitter as a knowledge sharing and collaboration tool, do you end up checking the ‘Twitter Feed’ instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Nee glad nie.

I: Goed, can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Ek vind dit bietjie moeilik om te gebruik, veral op my foon. Dit is iets om aan gewoont te raak.

I: What are your thoughts on how employees can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek dink dit het potential. Dit is goed om iets inplek te he waar almal kan post en wat almal kan sien. Jy ka nook terug verwys daarna want dit gaan nie weg nie. Dis net jammer mens kan nie folders of iets soos dit maak nie. Maar op die stadium werk dit okay – dit sal dalk sukkel as daar meer beweging op die Twitter stream is.

I: Baie dankie, het jy enige vrae van jou kant af?

51 B: Nee. Dankie

Business B

Interviewee: Participant 6, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Thank you for your time today. This interview's goal is for me to find out your experience was using Twitter the last few week.

B: Okay.

I: So how are you using Twitter as a knowledge sharing and collaboration tool? Is there anything that Twitter allowed you to do which worked well for knowledge sharing?

B: I send out my infographic to it so everyone could go there to see it. And I also setup a FAQ posts so people could go there to get the answers rather than mail or phone me. Although, some of the people did not really want to go and scroll through Twitter to find something and mailed me anyway. Guess it's just our established process at work.

I: Then how do you feel about becoming Twitter 'followers' with your clients or employees?

B: I do not think it [using Twitter] is a good idea. Social media should not be mixed with clients, internally it is fine.

I: Were there any advantages or the gratifications of using Twitter as knowledge sharing and collaboration tool?

B: The fact that it is open is an advantage. Everyone can see my posts and I don't have to worry that I missed someone. New people can also go to one place and find a lot of information which would be helpful to them.

I: How do you feel about using Twitter during working hours?

B: I don't think it is a problem, but it is something that will need to be monitored to see if it influences staff's affectivity.

I: Okay that good, now when you used Twitter did you fall into just looking at the 'feed' of posts?

B: No not really I just posted my things. And when I had idle time looked through the timeline.

I: Okay, can you think of any disadvantages, or negative impacts, in your experience using Twitter?

B: The fact that it is moving all the time makes it difficult to find old posts. If the search function could be used only to search your timeline that would be much better but the search searchers for everything so it is not really useful to me in this case.

I: What are your thoughts on how you and you colleagues can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Even though it moves fast and people do not see everything right away I do think it can work as a localised place to store information. People must just get use to the platform and scrolled through it. Maybe we can try to post more often to keep the information coming in.

I: Thank you. Do you have any further remarks?

B: No thank you.

Business B

Interviewee: Participant 7, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Thank you for your time today. This interview's goal is for me to find out your experience was using Twitter the last few week.

B: Good.

I: So how are you using Twitter as a knowledge sharing and collaboration tool? Is there anything that Twitter allowed you to do which worked well for knowledge sharing?

B: I tried to post the notices about when an interview takes place so that people know they should be there, like I do with Email.

I: Ouright and then how do you feel about becoming Twitter 'followers' with your clients or employees?

B: I don't have a problem with that.

I: Were there any advantages or the gratifications of using Twitter as knowledge sharing and collaboration tool?

B: It nice for me to use the search and look through all the media such as videos and images. I think it can be a good way to find new information about a topic.

I: How do you feel about using Twitter during working hours?

B: It's fine

I: Okay that good, now when you used Twitter did you fall into just looking at the 'feed' of posts?

B: No

I: Okay, can you think of any disadvantages, or negative impacts, in your experience using Twitter?

B: Like I said I tried to post the reminders about when an interview takes place on there, but because there is not read receipt or something similar I was scared that they did not get the message as such I mailed in any way. So Twitter didn't really work for me.

I: What are your thoughts on how you and you colleagues can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: I think we will need to use it more to know.

I: Thank you. Do you have any further remarks?

B: No

Business C

Interviewee: Participant 1, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/14/2017

I: Baie dankie vir jou tyd. Ek gaan in Engels vir jou die vra vra maar jy kan maar in Afrikaans antwoord. Jy is welkom om my te vra indien iets nie vir jou duidelik is nie.

B: Goed

I: Jy kan maar net vir my se as jy meer duidelikheid soek oor wat presies die vraag oor gaan. Maar daar is basiese vier goed wat ek wil weet - hierde gaan alles oor net jou daaglikse gebruik van Email. Die vier vra waarop dit fokus is; Wat is die need, so hoekom moet jy Email he. Hoe gebruik jy dit om daai need te vervul? En dan wat is die advantages daarvan en dan ook wat is die disadvantages. Reg, so net om te begin. In which department do you work and what are some of your main job functions?

B: Ek is die floer bestuurder

I: En dan, how did you realise that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? So met ander woorde wat se spesifieke needs was daar, hoekom het jy nie dadelik na n ander platform gegaan nie ipv Email nie.

B: Wel, dit is hoe ons maar met mekaar kommunikeer hier in die kantoor en met kliente. Daar is niks anders wat ek sal gebruik om bv vir ‘n klient ‘n navraag te stuur nie.

I: So nie Whatsapp of sms of iets soortgelyk nie?

B: Nee, ek dink nie dit is die regte manier om met jou klante te praat nie.

I: Regte soos in...

B: Nie profesionele menaier nie. Ek gaan nie vir my kliente Whatsapp nie.

I: Ek verstaan, okay, how are you using Email as a knowledge sharing and collaboration tool, so maw as jy dink oor Email is daar sekere tools wat vir jou baie hulpvaardig is byvoorbeeld die calender om appointments uittestuur.

B: Ek gebruik nie die calendar nie, ek is meesdal op my foon. Ek sou se ek gebruik dit maar net om mense te kontak en ‘n beheerde manier te he oor hoe mense my kontak.

I: Hoe bedoel jy beheerde manier?

B: So ek kan op my eie tyd antwoord en word nie gestuur heeltyd nie. Soos as iemand in my kantoor sou inloop of my bel.

I: So jy sal Email verkies bo inpersoon of foon oproep vergadering?

B: Ja, beslis.

I: En dan , sal jy as daar probleem is wat jy moet uitsorteer of debateer met iemand, sal jy gaan na Email toe daarvoor?

B: Altyd op Email. Dan is dit op skrif en niemand kan na die tyd hulle storie verander nie

I: en dan se maar jy moet met jou werknemers iets op neem?

B: Meesdal in persoon, soms mondelings, dit sal afhang van die situasie.

I: In watter situasie sal jy Email gebruik?

B: As daar byvoorbeeld ‘n geval is of probleem wat die besigheid kan beinvloed. Soos as ons vermoed iemand steel as jy kyk na ‘n uiterste situasie.

I: Wat gebruik jy op Email te kyk en te antwoord?

B: Meesdal my foon, en soms die rekenaar hier by die werk.

I: Okay, so hierdie volgende punt is basies fiesiese advantages of gratifications wat jy kry uit die gebruik van Email?

B: Dit is maklik [om te gebruik] en dit werk. En soos ek gese het dit help my om dinge op my eie tyd te doen en my schedule so te beheer. Vergaderings is ‘n mors van tyd en meeste van die tyd kan dit met ‘n paar eposse opgelos word.

I: En dan die laaste een, as jy nou dink aan jou huidige sisteem met Email. Wat is die hoof disadvantages daarvan of enige negatife impaks wat dit het op jou en jou besigheid?

B: Dit werk goed vir my so ek kan nie dink aan iets negtiefs nie... Of wag, spam?

I: Kry jy baie sulke boodskappe?

B: Ja, dit is ‘n probleem ek kry baie sulk Emails [spam Emails] wat nie net my inboks vol maak nie maar ook gevaarlik kan wees met viruses op die rekenaar.

I: Okay, weerseens dankie vir jou tyd dit is dit vir die Email gedeelte van die onderhoud. Het jy enige ekstra kommentaar of iets wat onduidelik is?

B: Nee. Dankie

Business C

Interviewee: Participant 2, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/14/2017

I: Thank you very much for your time. Please feel free to stop me if you need clarify on any of the questions.

B: Outright.

I: Okay, there are basically four aspects which I want to find out more about, specifically when we consider your daily Email use. These aspects are: What is the need for Email in your organisation and how are you using Email to fulfil that need? And then also what are the benefits or negative impacts Email has for you.

B: I understand

I: Right, just to start of. In which department do you work and what are some of your main job functions?

B: I work in the office, so I would say administration department. So, basically I run the administrative side of the business. My main functions are things like scheduling staff, invoicing clients and following up on payments.

I: And when we consider how you realised that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? Did you consider any other platform?

B: Well, Email is just so ingrained in the business world I don't see a need to go looking for another platform. And it's the main form of communication our clients use so we are just a product of the environment when it comes to using Email.

I: Looking at specifically how you as using Email as a knowledge sharing and collaboration tool, are there any functions which stand out are that you use a lot. For example using the calendar to schedule appointments?

B: Yes, the calendar is essential. I use the calendar to scheduled meetings for myself and other personnel in the office. We use a shared calendar so everyone knows who is doing what at what time and with who.

I: Anything else, or other functions?

B: The calendar is my mail function Email provides extra I would say over let's say WhatsApp.

I: Right, would you ever use Email as platform to start a conversation of debate with a client. Let's say you have someone who is difficult and has a grievance. Would you engage with Email? Or phone then?

B: Personally I would like to get the client in and talk directly with them. We are a small business and we like to build relationships with our clients. So having them here over a cup of coffee is my personal preference.

I: And if there is an internal grievance?

B: With staff its will depend on the problem. Mostly I will have a conversation with them in person and then just send an Email confirming that it took place and what we discussed. So I have that on record should a problem come up again.

I: What devices are you currently using to access your Email?

B: My laptop at home and the PC at work.

I: A desktop?

B: Yeah.

I: Okay, what would you consider the main advantages or gratifications of using Email in your daily work flow?

B: Like I mentioned earlier the calendar is very important to me. Scheduling meetings to make sure everyone knows what is going on is a great advantage. People also don't miss meetings as they get a reminder from outlook.

I: Any other tasks or functions which you would consider advantageous?

B: Well, I like using the folders to organise my inbox. This and the search also allow me to quickly find information.

I: Information such as?

B: Old invoices, proof of payments we made. And just in general commitments we made to clients or commitments to use. Specially, if there is a disagreement.

I: Do you have any thing you would consider a disadvantage to using Email?

B: Not really, as I said we use it, our clients use it and it is working so I don't see a problem. Expect maybe the cost.

I: The cost of?

B: We have our own Email server and we need to pay an admin fee to our IT guy to maintain it and back it up. We also purchased MS Office so we could use outlook which is expensive.

I: Okay, thank you again for your time. Do you have any further comments or questions on this?

B: No, I am good.

Business C

Interviewee: Participant 3, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 1 - Email usage

Date: 9/14/2017

I: Dankie vir jou tyd. Ek gaan in Engels vir jou die vrae vra maar jy kan maar in Afrikaans antwoord.

B: Okay.

I: Die doel van die ounderhou dis basies om vier goed uit te find. Ek wil weet wat die need is vir Email vir jou. Hoe jy Email gebruik om daai need te verul. En die advantages of advantages van Email vir jou. Vir die eerste vraag, in which department do you work and what are some of your main job functions?

B: Ek is die Workshop manager hier. So ek moet maar seker maak alles loop glad. As daar probleme is met iets dank an hulle na my toe kom.

I: Hulle?

B: Ja, die kliente of die personeel.

I: Goed, en dan how did you realise that Email could be used for work purposes, specifically as a knowledge sharing and collaboration tool? Dus wil ek net weer hoekom jy Email gebruik en niebyvoorbeeld WhatsApp nie?

B: Okay, ons gebruik maar nog altyd Email. Dit is maar waarmee ek hier begin werk het en almal gebruik dit.

I: Okay, how are you using Email as a knowledge sharing and collaboration tool? Wat doen jy daarmee?

B: Wel ek gebruik e-pos om handleidings uittestuur vir die werknemers. Ek stel manuals op oor hoe om ons product etegebruik of toerustung te herstel. Sodra ek so iets het stuur ek dit op epos uit vir almal hier.

I: Ek neem aan dit is in pdf format?

B: Ja dit is ‘n pdf. Gewoontlik so 10 bladsye lank met illustrasies.

I: Sal jy, as jy dalk ‘n probleem het met een van die werknemers hier of kliente, dit op Email probeer uitsorteer?

B: Nee, ek verkies om maar in persoon met mense te werk en praat. Veral as hulle moeilik is.

I: En dan, jou mense gebruik selfoon, en PC enigiets anders?

B: Ek gebruik hoofsaaklik my Selfoon. En my skootrekenaar as ek langer e-posse wil stuur.

I: Wat sal jy se is die hoof advantages of selfs gratifications wat jy kry as jy Email gebruik?

B: Wat bedoel jy gratifications*?*

I: So is daar byvoorbeeld ‘n fuksie of aspek van epos wat lekker is vir jou om te gebruik of wat jy as voordeel beskou bo-oor ‘n ander platform, byvoorbeeld WhatsApp?

B: Ok, soos die 'read receipt' funksie?

I: Ja, hoe gebruik jy dit?

B: Die 'read receipt' help baie om seker te maak belangrikke eposse word afgelewer. Ek voel meer gerus as ek dit kry. As wat mens dit net wegstuur en nie weer of dit wel 'deur' is nie. Veral met ons e-posse...

I: Wat bedoel jy, 'Veral met ons e-posse'*?*

B: Man, dit breek heeltyd en ek moet heeltyd sukkel dat dit werk op my selfoon. Ek is baie op die pad en het nodig dat dit werk.

I: Oh okay, weldit is basies my volgende vraag. Is daar enige ander disadvantages aan jou Email gebruik, huidiglik?

B: Nee wat, dit [Email] is gerieflik en maklik [om te gebruik].

I: Okay, dankie, het jy enige verdure vra of iets wat onduidelik was vir jou?

B: Nee wat

Business C

Interviewee: Participant 1, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Dankie vir jou tyd. Hierdie onderhoud se funksie is om meer uittevind oor hoe jy en julle as besigheid die gebruik van Twitter oor die afgelope tyd ervaar het. Weereens gaan ek in Engels die vrae vrae, jy is welkom om in Afrikaans te antwoord en my te vra indien jy meer inligting wil he.

B: Okay.

I: Eerstens, How are you using Twitter as a knowledge sharing and collaboration tool?

B: Ek het dit nie rerig bebruik om goed te post nie, ek het wel ekyk wat die ander mense daarop sit. Maar ek het nie tyd om heeltyd na video links of artikels te kyk nie.

I: Goed dan, how do you feel about becoming Twitter 'followers' with your clients or employees?

B: Ek hou nie daarvan van nie en voel nie gemaklik daarmee nie.

I: What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Dit is lekker dat daar een plek is waar mens al die inligting kan stoor wat almal kan kry. As jy dan die dag tyd het kan jy daar loop kyk en krap.

I: Goed, en how do you feel about using Twitter during working hours?

B: Soos ek se ekt nie tyd daarvoor nie, maar ek dink ons almal hier hetself beheer genoeg dat dit nie 'n probleem is nie.

I: When using Twitter as a knowledge sharing and collaboration tool, Do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Nee

I: Okay, can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Soos ek se dit is nie vir my nie, dalk is ek te oud vir die tiepe ding. Dit [the timeline] beweeg te vinnig en mens kan nie rerig dit volg nie. So ek kan dit nie rerig gebruik om my werks lewe te organiseer nie.

I: Okay, laaste een. What are your thoughts on how employees / employer can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek weet nie regtig nie.

I: Baie dankie, Het jy enige verdere vrae?

B: Nee.

Business C

Interviewee: Participant 2, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Thank you for your time today. This interview is just for me to find out your experience was using Twitter the last few week.

B: Okay.

I: So how are you using Twitter as a knowledge sharing and collaboration tool? Is there anything that Twitter allowed you to do which worked well for knowledge sharing?

B: Well, I did not post to frequent, only in the morning or when I needed to get information out. I liked going through the timeline when I have a spare moment. Some people posted links to websites of our clients or things, work related, which was interesting for me.

I: Ouright and then how do you feel about becoming Twitter 'followers' with your clients or employees?

B: Well, we did not really go out to engage clients on Twitter but we did follow them and also potential clients so we can see what they are posting.

I: Were there any advantages or the gratifications of using Twitter as knowledge sharing and collaboration tool?

B: Well one advantage, or what I liked, was that everyone posts one place so everyone can see what's going on. Or at least if someone for examples says I am going out till 2pm you could see it there. It's not perfect because you may miss the message unlike Email but it works for me.

I: How do you feel about using Twitter during working hours?

B: I don't mind it, we said outright that they should only use Twitter work for related things and at least over this period they stuck to doing that.

I: Okay that good, now when you used Twitter did you fall into just looking at the 'feed' of posts?

B: No, not really. I went on to post something I felt needed to be posted there. I did spend some time looking through the posts but I could ignore the posts not addressed to me.

I: What did you feel you needed to post on Twitter?

B: Well, I posted some basic scheduling things, as when people will be out of the office for the day and such. Also I put some notifications for the office on there.

I: Notifications? Such as?

B: Well, some small notices. Like we had bottled water delivered so I wrote a post that telling them they can come and take a bottle. Stuff like that.

I: Okay, can you think of any disadvantages, or negative impacts, in your experience using Twitter?

B: The posts are too short. I like being clear and I don't think Twitter allows you to really elaborate. And I don't want to make 100 posts on one thing; I would rather just type an Email.

I: That's understandable, anything else?

B: No, not that I can think of.

I: What are your thoughts on how you and you colleagues can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Well, I think we will have to use it a bit longer to really know. But like I said it's great to share short bursts of information. I also liked that all the information is open and everyone can see it. To the knowledge sharing aspect I can think that it has value because you have a place where you can posts links to important documents or information sources. But you can't really search you feed so it is not that useable for me.

I: Thank you. Do you have any further remarks?

B: No, it's fine.

Business C

Interviewee: Participant 3, Pseudonym: B

Interviewer: Wiaan Heyns, Pseudonym: I

Interview topic: Interview No. 2 - Twitter usage

Date: 10/24/2017

I: Dankie vir jou tyd. Die onderhoud se funksie is om meer uittevind oor hoe jy en julle as besigheid die gebruik van Twitter oor die afgelope tyd ervaar het. Ek gaan weereens in Engels vir jou die vrae vrae en jy is welkom om in Afrikaans te antwoord en my te vra indien jy meer inligting wil he.

B: Ok

I: How are you using Twitter as a knowledge sharing and collaboration tool?

B: Ek het probeer om dit te gebruik soos ek Email gebruik. Ek het kennisgewings daarop geplaas as ek nuwe handleidings beskikbaar het. Ek kon dit ongelukkig nie met Twitter stuur nie. Of as ek kan weet ek nie hoe nie.

I: En dan, how do you feel about becoming Twitter 'followers' with your clients or employees?

B: Ons het nie dit so toegepas nie omdat dit meeer as platform was waar almal op gepost het en al die inligting daar gestoor was. Ek gee nie rerig om wie 'follow' wie nie. Dit is nie vir my iets belangriks nie, solank die inligting wat moet versprei word uitkom.

I: Ek verstaan, vir die volegende vraag. What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?

B: Wel die feit dat dit betroubaar was. Dit was heeltyd 'aan'. En dit is maklik om op die foon te gebruik. En dit is verniet.

I: Goed, How do you feel about using Twitter during working hours?

B: Dis nie vir my 'n probleem nie. Ons werkers het almal by ons reels gehou en net werks verbande goed ge-'post'. Solank dit op 'n profesionele manier gebruik word het ek nie 'n probleem daarmee nie.

I: When using Twitter as a knowledge sharing and collaboration tool, do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

B: Nee, ek het net die 'feed' gebruik om inligting te post en dan was ek klaar. Ekt nie rerig tyd om ure daar rond te 'scroll' nie.

I: Wat het jy alles gepost? Behalwe die handleidings notification?

B: Ek't ook gese as ek uitgaan en wanneer ek din kek gaan terug wees.

I: Goed, can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?

B: Een probleem is dat ek nie pdfs, vir my handleidings, kon aanheg nie. So dit was maar net 'n notification dat dit uitgestuur was en beskikbaar is. Die 'timeline' beweeg ook vinnig as baie mense 'post' so ek het nie dit lekker gevolg nie. En mens kan ook nie maklik iets opspoor wat jy vroer gesien het nie.

I: Okay, laaste een. What are your thoughts on how employees can best leverage Twitter to enhance its use as a knowledge sharing and collaboration tool?

B: Ek sou se ons kan dit gebruik as bystands middel vir Email. Dit sal nie Email kan vervang hier by ons nie. Daarvan is ek seker. Dit sal dalk kan gebruik word as ‘n plek om ‘links’ te plaas dat almal dit kan sien of dalk meer as ‘n kennisgeing bord.

I: Baie dankie, Het jy enige vrae van jou kant af?

B: Nee. Dankie

Annexure B: Coding Manual for Quantitative Data Analysis

Coding manual for Quantitative Data Analysis				
Description	**Question number**	**Variable Description**	**Value codes and value labels**	**Measure type**
Section A: Demographic information				
Participant ID		Participant ID		Nominal
Consent	Q1	Informed Consent to participate in the study	0 = No 1 = Yes	Ordinal
Demographic information	Q2	Business Sector		
	Q3	Number of years in existence		Ordinal
	Q4	Level of education	1 = No formal education 2 = Primary school completed 3 = Secondary school completed 4 = Tertiary education completed 5 = Other	Interval
	Q5	Gender	0 = Male 1 = Female	Nominal
	Q6	Training	0 = No 1 = Yes	Ordinal
Section B: Twitter				
Twitter Perceived Usefulness	Q1 - Q6	Using Twitter enables me to accomplish my tasks more quickly. Using Twitter improves my work task performance. Using Twitter increases my productivity. Using Twitter makes it easier for me to understand my work tasks. Using Twitter makes it easier for me to communicate with clients/colleges. Overall, I find Twitter useful in my work tasks.	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	Interval

Twitter Perceived Ease of Use	Q7- Q10	Learning to use Twitter is easy for me. I find it not difficult to get Twitter to do what I want it to do. I find Twitter to be flexible to interact with. It is easy for me to become skillful at using Twitter.	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	Interval
Twitter Subjective norms	Q11 - Q14	People who influence my behaviour think that I should use Twitter. People who are important to me would think that I should use Twitter. People whose opinion I value would prefer me to use Twitter rather than other communication tools. I think that those people who are important to me would want me to use Twitter rather than other communication tools.	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	Interval
Twitter Behavioural intention	Q15 - Q17	Assuming I had access to Twitter, I intend to use it. Given that I had access to Twitter, I predict that I would use it. I will use Twitter frequently in the future.	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	Interval
Twitter Actual use	Q18	How many times do you believe you use Twitter during a week?	1 = Not at all 2 = Less than once a week 3 = About once a week 4 = 2 or 3 times a week 5 = Several times a	Ordinal

			week 6 = About once a day 7 = Several times a day	
	Q19	How many hours do you believe you use Twitter every week?	1 = Less than 1 hr. 2 = Between 1-5 hrs. 3 = Between 5-10 hrs. 4 = Between 10-15 hrs. 5 = Between 15-20 hrs. 6 = Between 20-25 hrs. 7 = More than 25 hrs.	
	Q20	How frequently do you believe you use Twitter?	1 = Extremely infrequent 2 = Quite infrequent 3 = Slightly infrequent 4 = Neither 5 = Slightly frequent 6 = Quite frequent 7 = Extremely frequent	Interval
Section C: Email				

Email Perceived Usefulness	Q1 - Q6	Using Email enables me to accomplish my tasks more quickly. Using Email improves my work task performance. Using Email increases my productivity. Using Email makes it easier for me to understand my work tasks. Using Email makes it easier for me to communicate with clients/colleges. Overall, I find Email useful in my work tasks.	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	Interval
Email Perceived Ease of Use	Q7- Q10	Learning to use Email is easy for me. I find it not difficult to get Email to do what I want it to do. I find Email to be flexible to interact with. It is easy for me to become skillful at using Email.	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	Interval
Email Subjective norms	Q11 - Q14	People who influence my behaviour think that I should use Email. People who are important to me would think that I should use Email. People whose opinion I value would prefer me to use Email rather than other communication tools. I think that those people who are important to me would want me to use Email rather than other communication tools.	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	Interval
Email Behavioural intention	Q15 - Q17	Assuming I had access to Email, I intend to use it. Given that I had access to Email, I predict that I would use it. I will use Email frequently in the future.	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	Interval

Email Actual use	Q18	How many times do you believe you use Email during a week?	1 = Not at all 2 = Less than once a week 3 = About once a week 4 = 2 or 3 times a week 5 = Several times a week 6 = About once a day 7 = Several times a day	Ordinal
	Q19	How many hours do you believe you use Email every week?	1 = Less than 1 hr. 2 = Between 1-5 hrs. 3 = Between 5-10 hrs. 4 = Between 10-15 hrs. 5 = Between 15-20 hrs. 6 = Between 20-25 hrs. 7 = More than 25 hrs.	
	Q20	How frequently do you believe you use Email?	1 = Extremely infrequent 2 = Quite infrequent 3 = Slightly infrequent 4 =	Interval

			Neither 5 = Slightly frequent 6 = Quite frequent 7 = Extremely frequent	

Annexure C: Case Study Participant Information Sheet

PARTICIPANT INFORMATION SHEET

Ethics clearance reference number: **027/WH/2017/CSET_SOC**
Research permission reference number (if applicable): **N/A**

10 July 2017

Title: A comparison between Email and Twitter as knowledge sharing platforms in small South African businesses located in the Western Cape.

Dear Prospective Participant

My name is Wiaan Heyns I am doing research with Dr. Sheryl Buckley, a Director of ICT Transformation: CMU in the Department of *Computer* Science and Information Systems towards a Master of Science in Computing at the University of South Africa. We have funding from the University of South Africa as a bursary was awarded to the researcher for their Master of Science in Computing degree. We are inviting you to participate in a study entitled Twitter as a knowledge sharing platform in small South African businesses in the Western Cape.

WHAT IS THE PURPOSE OF THE STUDY?

I am conducting this research to find out if Twitter will be accepted and can be used as a knowledge sharing platform in small South African businesses in the Western Cape. The main objective can be achieved through following multiple sub-objectives as listed below.

The main objective can be achieved through following multiple sub-objectives as listed below.

1. What is the perceived usefulness (PU) and perceived ease of use (PEOU) of Twitter when it comes to knowledge sharing within the business?
2. How does the perceived usefulness (PU) and perceived ease of use (PEOU) of traditional knowledge sharing platforms (such as Email) compare to using Twitter in practice as a knowledge sharing platform?
3. How does the subjective norms generated from the social aspect of Twitter influence the behavioural intention to use Twitter?
4. How does the subjective norms generated from the social aspect of Twitter influence the actual to use Twitter?

WHY AM I BEING INVITED TO PARTICIPATE?

Your company has been selected because the company can be classified as a small business in the private sector located in the Western Cape, South Africa and this is the best location for the researcher to conduct this study.

Your contact details was obtained from your company website. A search was done (on www.google.co.za) to find small businesses located close to the researcher as this makes the logistics of the study easier to manage.

At the time of this writing the research aims to include between three and six businesses in the study. Time would be split between the traditional platform and Twitter. Once both time periods have elapsed the data from both can be evaluated and compared to answer the research questions at hand.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study will involve the following data collecting methods:

- Audio taping
- Questionnaires
- Semi-structured interviews

The participant must be willing to be involved in a case study from 1 August 2017 to 30 September 2017. During this time they are expected to allow bi-weekly follow-up interviews as well as weekly Emails from the researcher if needed at that stage of the research project. At the end of the case study the research will do the final interview which will include a questionnaire.

The case study will be split in tow distinctive parts which will be reflected by the bi-weekly follow-up interview questions:

- 1 August 2017 to 31 August 2017 will focus on Traditional knowledge sharing (via Email) within the business
- 1 September 2017 to 30 September 2017 will focus on using Twitter as knowledge sharing platform within the business

The time allocated to conduct interviews will be as follows:

- The bi-weekly follow-up interviews will be allocated 20 minutes.
- The final interview, including a questionnaire, will be allocated 60 minutes.

A copy of the interview protocol is appended to this document.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

The nature of the questionnaire involved in the case study clearly indicate the identity of the participant, but the researcher have agreed to anonymise personal data. This means someone could ask to withdraw their questionnaire.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

The envisioned benefits of this study are that the findings of this study will give you the necessary insight to use Twitter as free alternative or supportive knowledge sharing platform in your organisation.

ARE THEIR ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

We do not foresee that your company or any of its employees will experience any negative consequences or be exposed to potential risks through this research endeavor.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

You have the right to insist that your name will not be recorder anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research. Your answers will be given a code number and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

Your answers may be reviewed by people responsible for making sure that research is done properly, including members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Please note that a research report, journal articles and/or conference proceedings of the study may be submitted for publication, but individual participants will not be identifiable in such publication.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Hard copies of your answers will be stored by the researcher for a minimum period of five years in a locked cupboard at F4 Belami Ridge, Sontraal Heights, Durbanville for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable.

The information destruction process will be as follows:

- Hard copies will be shredded
- Electronic copies will be permanently deleted from the hard drive of the computer through the use of the Eraser (https://eraser.heidi.ie/) software program.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

There will be no payment or reward, financial or otherwise, offered to subjects during this study. Subject will also not incur any cost from their participation in the study.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the Research Ethics Review Committee of the School of Computing Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Wiaan Heyns via Email on 48354848@mylife.unisa.ac.za. The findings will be accessible from 1 March 2018. Please do not use hometelephone numbers. Departmental and/or mobile phone numbers are acceptable.

Should you require any further information or want to contact the researcher about any aspect of this study, please contact Wiaan Heyns via Email on 48354848@mylife.unisa.ac.za.

Should you have concerns about the way in which the research has been conducted, you may contactDr. Sheryl Buckley during office hours at 011 670 9120. Contact the research ethics chairperson of the UNISA School of Computing Ethics Review Committee (ERC), via Email on SocEthics@unisa.ac.za if you have any ethical concerns.

Thank you for taking time to read this information sheet and for participating in this study.
Thank you.

Wiaan Heyns

Annexure D: Case Study Consent to Participate in this Study

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of data through the use of a questionnaire as well as a case study.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname…… (please print)

Participant Signature……..Date……

Researcher's Name & Surname _____(please print)

Researcher's signature Date……

Annexure E: Ethical clearance certificate

UNISA university of south africa

UNISA COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY'S (CSET) RESEARCH AND ETHICS COMMITTEE

26 June 2017

Ref #: 027/WH/2017/CSET_SOC
Name: Wiaan Heyns
Student #: 48354848

Dear Wiaan Heyns

Decision: Ethics Approval for three years (Humans involved)

Researcher: Wiaan Heyns
F4 Belami Ridge, Sonstraal Heights, Durbanville
48354848@mylife.unisa.ac.za, +27 72 375 6631

Supervisor (s): Dr. Sheryl Buckley
sherbuck@gmail.com, +27 82 574 7457

Proposal: Twitter as a knowledge sharing platform in small South African businesses in the Western Cape.

Qualification: MsC in Computing

Thank you for the application for research ethics clearance by the Unisa College of Science, Engineering and Technology's (CSET) Research and Ethics Committee for the above mentioned research. Ethics approval is granted for a period of three years from 26 June 2017 to 26 June 2020.

1. The researcher will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Unisa College of Science, Engineering and

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Technology's (CSET) Research and Ethics Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.

3. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.
4. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
5. Permission to conduct this research should be obtained from the small South African businesses in the Western Cape prior to commencing field work.

Note:
The reference number 027/WH/2017/CSET_SOC should be clearly indicated on all forms of communication with the intended research participants, as well as with the Unisa College of Science, Engineering and Technology's (CSET) Research and Ethics Committee

Yours sincerely

Adde da Veiga

Dr. A Da Veiga

Chair: Ethics Sub-Committee School of Computing, CSET

Prof I. Osunmakinde

Director: School of Computing, CSET

Prof B. Mamba

Executive Dean: College of Science, Engineering and Technology (CSET)

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Annexure F: Email Interview Guide

Email Interview Guide

1. In which department do you work, what are some of you main job functions?

2. **How did you realise that Email could be used** for your work purposes, specifically as a knowledge sharing and collaboration tool?

Prompts:

- *Was there a specific need to utilise it?*
- *When did you start using Email?*
- *Which other tool did you use before Email?*

3. **How are you using Email** as a knowledge sharing and collaboration tool?

Prompts:

- *Find out about the feature used*
- *What do you usually share with your clients or staff (images, videos, Internet links)?*
- *Do you start debates with your clients or employees?*
- *Find out about the users and respondents* accessing device (desktop computer, mobile phone, tablets).

4. What are the **advantages** of, or the gratifications experienced in, using Email as knowledge sharing and collaboration tool?

Prompts:

- *As compared to face-to-face, or other platforms such as Skype*

5. Can you think of other **disadvantages**, or negative impacts, of using Email a knowledge sharing and collaboration tool?

Prompts:

- *As compared to face-to-face, or other platforms such as Skype*

6. Any further comments.

Annexure G: Twitter Interview Guide

Twitter Interview Guide

1. How are you using Twitter as a knowledge sharing and collaboration tool?
   Prompts:
   - *Find out about the feature used: Twitter search, Direct Message, or any other feature.*
   - *What do you usually share with your clients or employees (images, videos, Internet links)?*
   - *Do you start debates with your clients or co-workers?*
   - *Find out about the users and respondents accessing device (desktop computer, mobile phone, tablets).*

2. How do you feel about becoming Twitter 'followers' with your clients or employees?
   Prompts:
   - *Do you have any concerns related to having personal information accessible to your clients or co-workers? Why?*
   - *What do you think Twitter should change, or implement, to increase privacy?*

1. What are the advantages of, or the gratifications experienced in, using Twitter as knowledge sharing and collaboration tool?
   Prompts:
   - *As compared to face-to-face, or other platforms such as Skype*

3. How do you feel about using Twitter during working hours?
   Prompts:
   - *Do you use Twitter during working hours?*
   - *Are you allowed to use Twitter during working hours?*

4. When using Twitter as a knowledge sharing and collaboration tool:
   a) Do you end up checking the 'Twitter Feed' instead - to check what your other Twitter followers (not your co-workers) are up to?

   IF YES, skip b)

   b) What happens when you get notifications from your other Twitter followers (they have tagged you on pictures, statuses, or they simply want to chat with you)?

5. Can you think of other disadvantages, or negative impacts, of using Twitter as a knowledge sharing and collaboration tool?
   Prompts:
   - *As compared to face-to-face, or other platforms such as Skype*

6. What are your **thoughts** on how employees / employer can **best leverage** Twitter to enhance its use as a knowledge sharing and collaboration tool?

7. Any further comments.

Annexure H: Case Study Interview date and times

Case Study Interviews: July to September 2017							
		Business A		**Business B**		**Business C**	
		Initial meeting Date		Initial meeting Date		Initial meeting Date	
Initial meeting	**All Participants**	28/07/2017		10/07/2017		28/07/2017	
		Interview Date	Interview Length (min)	Interview Date	Interview Length (min)	Interview Date	Interview Length (min)
Interview Email Usage	**Participant 1**	07/09/2017	10:44				
	Participant 2	07/09/2017	12:48				
	Participant 3	07/09/2017	10:52				
	Participant 4	07/09/2017	09:51				
	Participant 5	09/09/2017	10:43				
	Participant 6			11/09/2017	10:31		
	Participant 7			11/09/2017	10:15		
	Participant 8			11/09/2017	10:45		
	Participant 9			11/09/2017	11:05		
	Participant 10			11/09/2017	08:05		
	Participant 11			11/09/2017	08:10		
	Participant 12			11/09/2017	09:20		
	Participant 13					14/09/2017	10:31
	Participant 14					14/09/2017	09:56
	Participant 15					14/09/2017	11:03
Interview Twitter Usage	**Participant 1**	13/10/2017	06:17				
	Participant 2	13/10/2017	07:01				
	Participant 3	13/10/2017	07:35				
	Participant 4	13/10/2017	08:00				
	Participant 5	13/10/2017	06:53				
	Participant 6			24/10/2017	07:53		
	Participant 7			24/10/2017	06:58		
	Participant 8			24/10/2017	07:58		
	Participant 9			24/10/2017	08:02		
	Participant 10			24/10/2017	06:50		
	Participant			24/10/201	07:41		

	11			7			
	Participant 12			24/10/2017	08:08		
	Participant 13					24/10/2017	05:59
	Participant 14					24/10/2017	07:32
	Participant 15					24/10/2017	06:54
Interview Averages - Business A,B and C		**Business A**		**Business B**		**Business C**	
Average time per interview: Email	10:24	Average time per interview : Email	10:59	Average time per interview: Email	09:44	Average time per interview : Email	10:30
Average time per interview: Twitter	07:11	Average time per interview : Twitter	07:09	Average time per interview: Twitter	07:38	Average time per interview : Twitter	06:48

Annexure I: Quantitative descriptive statistics

This annexure contains the descriptive statistics of questions represented in the questionnaire which was not included in the body of this document.

Section A: Demographics

Level of Education	**N**	**Column %**
No formal education	4	3.28%
Primary school completed	6	4.92%
Secondary school completed	55	45.08%
Tertiary education completed	57	46.72%
All	122	100.00%

Gender		
Male	57	46.72%
Female	65	53.28%
All	122	100.00%

Section B: Twitter

Perceived Usefulness (Section)

Question 1 – 6

	Strongly disagree		**Disagree**		**Undecided**		**Agree**		**Strongly agree**		**All**	
	N	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**
Twitter1	51	41.80%	30	24.59%	24	19.67%	15	12.30%	2	1.64%	122	100.00%
Twitter2	53	43.44%	31	25.41%	26	21.31%	11	9.02%	1	0.82%	122	100.00%
Twitter3	54	44.26%	32	26.23%	23	18.85%	11	9.02%	2	1.64%	122	100.00%
Twitter4	53	43.44%	32	26.23%	28	22.95%	7	5.74%	2	1.64%	122	100.00%
Twitter5	46	37.70%	26	21.31%	33	27.05%	15	12.30%	2	1.64%	122	100.00%
Twitter6	52	42.62%	31	25.41%	25	20.49%	11	9.02%	3	2.46%	122	100.00%

Perceived Ease of Use (Section)

Question 7 -10

	Strongly disagree		**Disagree**		**Undecided**		**Agree**		**Strongly agree**		**All**	
	N	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**
Twitter7	34	27.87%	16	13.11%	29	23.77%	31	25.41%	12	9.84%	122	100.00%
Twitter8	35	28.69%	21	17.21%	37	30.33%	22	18.03%	7	5.74%	122	100.00%
Twitter9	35	28.69%	14	11.48%	36	29.51%	27	22.13%	10	8.20%	122	100.00%
Twitter10	35	28.69%	14	11.48%	34	27.87%	27	22.13%	12	9.84%	122	100.00%

Subjective Norms (Section)

Question 11 – 14

	Strongly disagree	**Disagree**	**Undecided**	**Agree**	**Strongly agree**	**All**

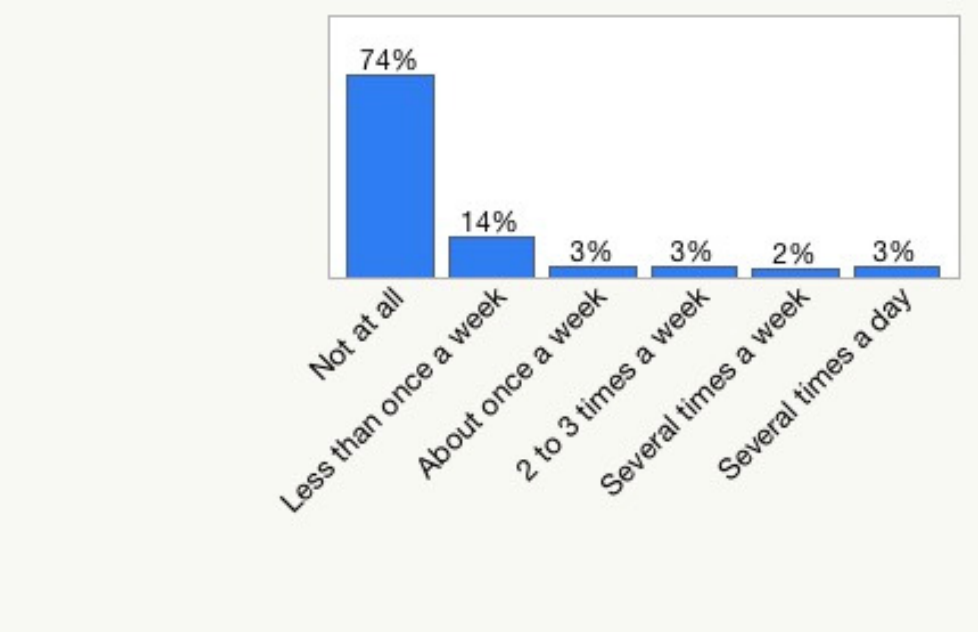
	N	Column %	N	Column %	N	Column %	N	Column %	N	Column %	N	Column %	
Twitter11	45	36.89%	42	34.43%	28	22.95%	5	4.10%	2	1.64%	122	100.00%	
Twitter12	47	38.52%	41	33.61%	24	19.67%	7	5.74%	3	2.46%	122	100.00%	
Twitter13	49	40.16%	36	29.51%	23	18.85%	12	9.84%	2	1.64%	122	100.00%	
Twitter14	47	38.52%	41	33.61%	20	16.39%	12	9.84%	2	1.64%	122	100.00%	

Behavioral Intention (Section)
Question 15 – 17

	Strongly disagree		Disagree		Undecided		Agree		Strongly agree		All	
	N	Column %	N	Column %	N	Column %	N	Column %	N	Column %	N	Column %
Twitter15	30	24.79%	28	23.14%	29	23.97%	26	21.49%	8	6.61%	121	100.00%
Twitter16	31	25.41%	28	22.95%	25	20.49%	29	23.77%	9	7.38%	122	100.00%
Twitter17	30	24.59%	35	28.69%	33	27.05%	16	13.11%	8	6.56%	122	100.00%

Actual Use (Section)
Question 18 – 20

Twitter18

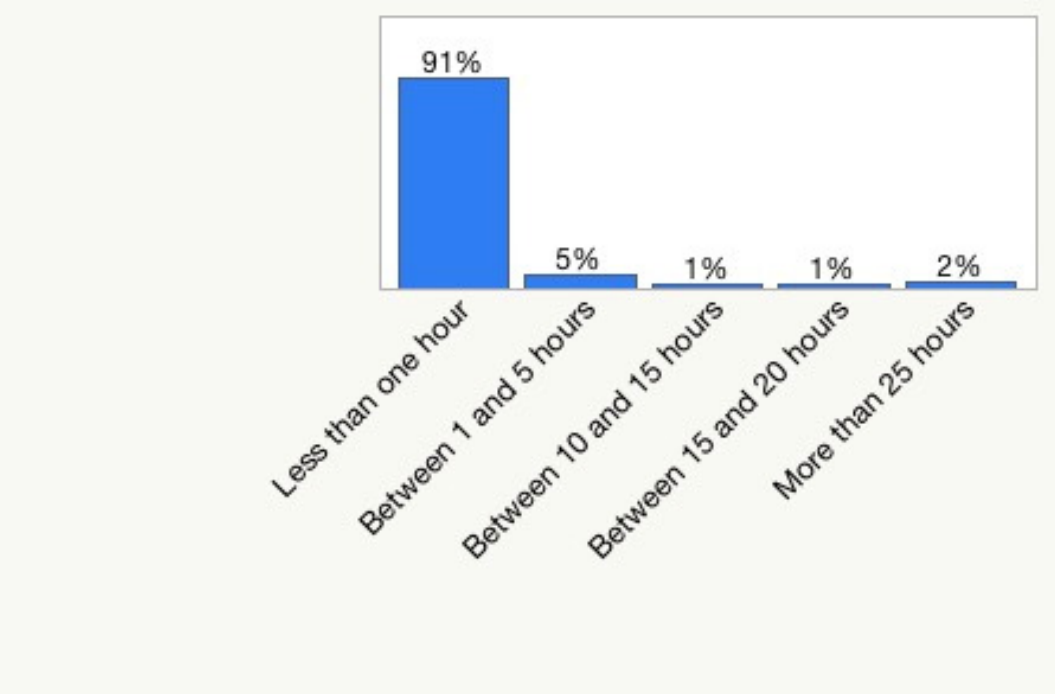


Frequencies		
Level	**Count**	**Probability**
Not at all	90	0.73770
Less than once a week	17	0.13934
About once a week	4	0.03279

Frequencies		
Level	**Count**	**Probability**
2 to 3 times a week	4	0.03279
Several times a week	3	0.02459
Several times a day	4	0.03279
Total	122	1.00000

Twitter use times per week		
N	Missing	0
	Levels	6

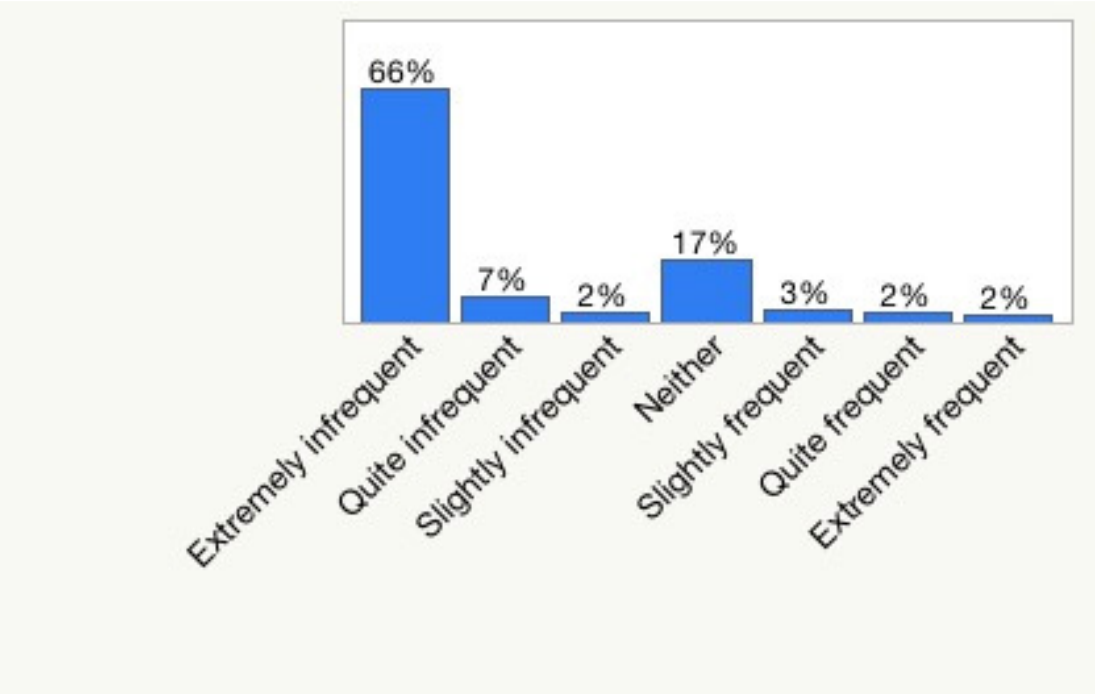
Twitter19



Frequencies		
Level	**Count**	**Probability**
Less than one hour	111	0.90984
Between 1 and 5 hours	6	0.04918
Between 10 and 15 hours	1	0.00820
Between 15 and 20 hours	1	0.00820
More than 25 hours	3	0.02459
Total	122	1.00000

Twitter use hours per week		
N	Missing	0
	Levels	5

Twitter20



Frequencies		
Level	**Count**	**Probability**
Extremely infrequent	81	0.66393
Quite infrequent	8	0.06557
Slightly infrequent	3	0.02459
Neither	21	0.17213
Slightly frequent	4	0.03279
Quite frequent	3	0.02459
Extremely frequent	2	0.01639
Total	122	1.00000

Twitter use frequency		
N	Missing	0
	Levels	7

Section C: Email
Perceived Usefulness (Section)
Question 1 – 6

	Strongly disagree		**Disagree**		**Undecided**		**Agree**		**Strongly agree**		**All**	
	N	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**
Email1	5	4.10%	5	4.10%	1	0.82%	48	39.34%	63	51.64%	122	100.00%

Email2	3	2.46%	5	4.10%	6	4.92%	44	36.07%	64	52.46%	122	100.00%
Email3	2	1.64%	9	7.38%	7	5.74%	45	36.89%	59	48.36%	122	100.00%
Email4	3	2.46%	12	9.84%	13	10.66%	41	33.61%	53	43.44%	122	100.00%
Email5	2	1.64%	2	1.64%	3	2.46%	46	37.70%	69	56.56%	122	100.00%
Email6	3	2.46%	1	0.82%	3	2.46%	42	34.43%	73	59.84%	122	100.00%

Perceived Ease of Use (Section)
Question 7 -10

	Strongly disagree		**Disagree**		**Undecided**		**Agree**		**Strongly agree**		**All**	
	N	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**
Email7	2	1.64%	0	0.00%	2	1.64%	48	39.34%	70	57.38%	122	100.00%
Email8	3	2.46%	3	2.46%	3	2.46%	55	45.08%	58	47.54%	122	100.00%
Email9	3	2.46%	2	1.64%	5	4.10%	55	45.08%	57	46.72%	122	100.00%
Email10	1	0.82%	2	1.64%	4	3.28%	48	39.34%	67	54.92%	122	100.00%

Subjective Norms (Section)
Question 11 – 14

	Strongly disagree		**Disagree**		**Undecided**		**Agree**		**Strongly agree**		**All**	
	N	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**
Email11	2	1.64%	12	9.84%	21	17.21%	50	40.98%	37	30.33%	122	100.00%
Email12	4	3.28%	11	9.02%	17	13.93%	48	39.34%	42	34.43%	122	100.00%
Email13	5	4.10%	9	7.38%	21	17.21%	50	40.98%	37	30.33%	122	100.00%
Email14	3	2.46%	13	10.66%	25	20.49%	44	36.07%	37	30.33%	122	100.00%

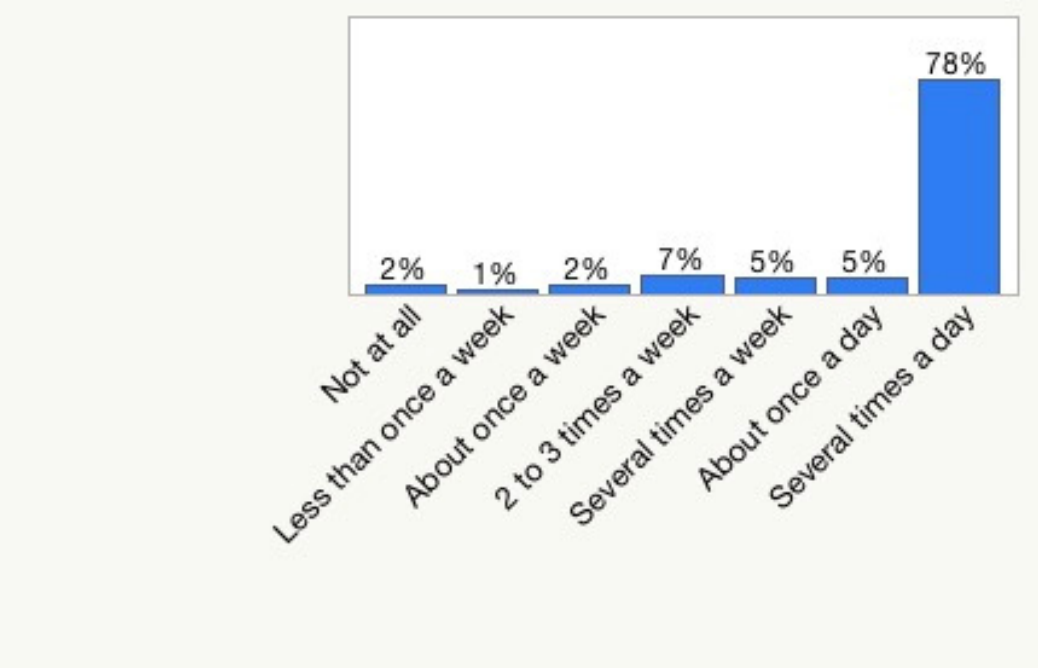
Behavioral Intention (Section)
Question 15 – 17

	Strongly disagree		**Disagree**		**Undecided**		**Agree**		**Strongly agree**		**All**	
	N	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**	**N**	**Column %**
Email15	0	0.00%	1	0.82%	2	1.64%	40	32.79%	79	64.75%	122	100.00%
Email16	1	0.82%	2	1.64%	1	0.82%	37	30.33%	81	66.39%	122	100.00%

Email17	0	0.00%	1	0.82%	3	2.46%	36	29.51%	82	67.21%	122	100.00%

Actual Use (Section)
Question 18 – 20

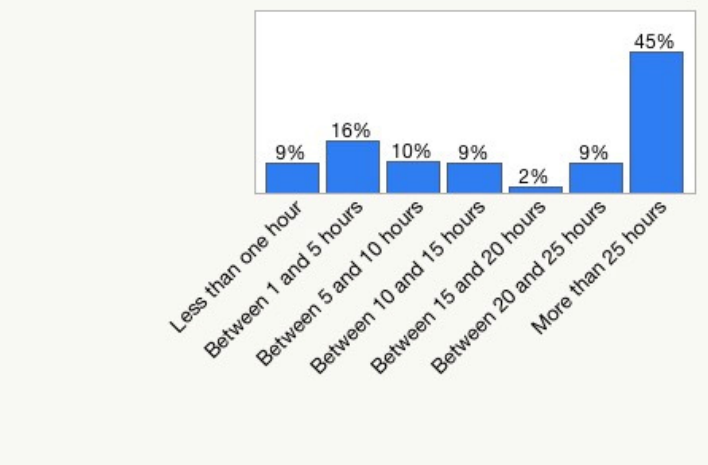
Email18



Frequencies		
Level	**Count**	**Probability**
Not at all	3	0.02459
Less than once a week	1	0.00820
About once a week	3	0.02459
2 to 3 times a week	8	0.06557
Several times a week	6	0.04918
About once a day	6	0.04918
Several times a day	95	0.77869
Total	122	1.00000

Email use times per week		
N	Missing	0
	Levels	7

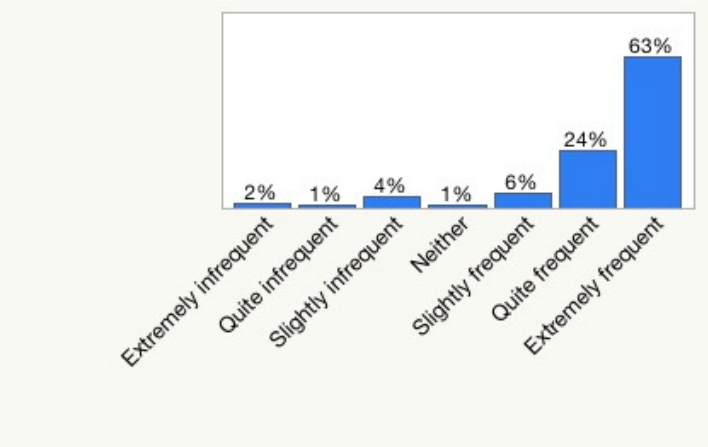
Email19



Frequencies		
Level	**Count**	**Probability**
Less than one hour	11	0.09016
Between 1 and 5 hours	20	0.16393
Between 5 and 10 hours	12	0.09836
Between 10 and 15 hours	11	0.09016
Between 15 and 20 hours	2	0.01639
Between 20 and 25 hours	11	0.09016
More than 25 hours	55	0.45082
Total	122	1.00000

Twitter use times per week		
N	Missing	0
	Levels	7

Email20

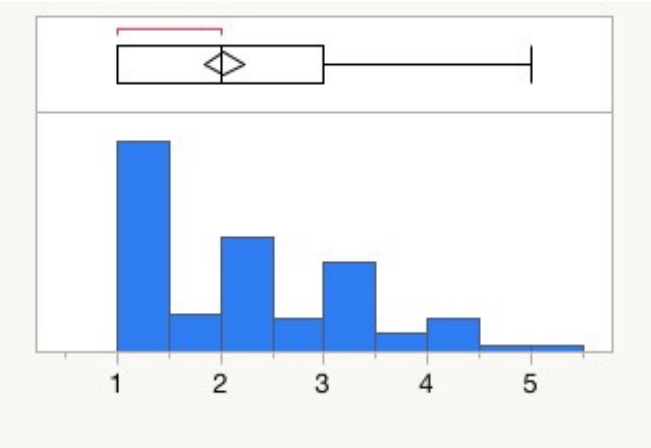


Frequencies		
Level	**Count**	**Probability**
Extremely infrequent	2	0.01639
Quite infrequent	1	0.00820
Slightly infrequent	5	0.04098

Frequencies		
Level	**Count**	**Probability**
Neither	1	0.00820
Slightly frequent	7	0.05738
Quite frequent	29	0.23770
Extremely frequent	77	0.63115
Total	122	1.00000

Email use frequency		
N	Missing	0
	Levels	7

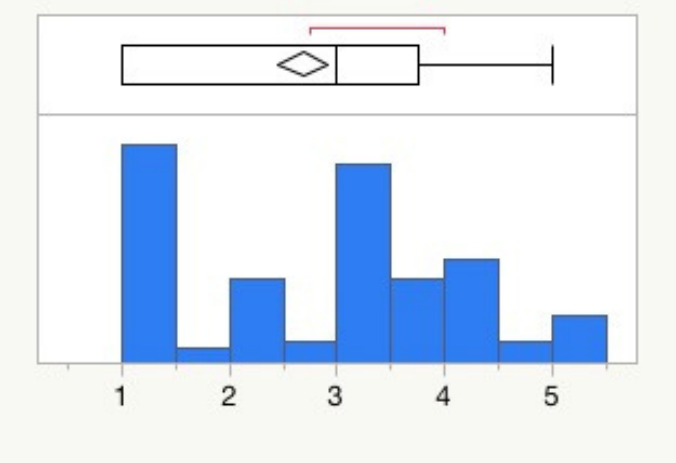
PU Twitter



Quantiles		
100.0%	maximum	5
99.5%		5
97.5%		4.1541666667
90.0%		3.5
75.0%	quartile	3
50.0%	median	2
25.0%	quartile	1
10.0%		1
2.5%		1
0.5%		1
0.0%	minimum	1

Summary Statistics	
Mean	2.0355191
Std Dev	1.0178006
Std Err Mean	0.0921473
Upper 95% Mean	2.2179491
Lower 95% Mean	1.8530892
N	122
Skewness	0.6858453
Kurtosis	-0.399479

PEU Twitter

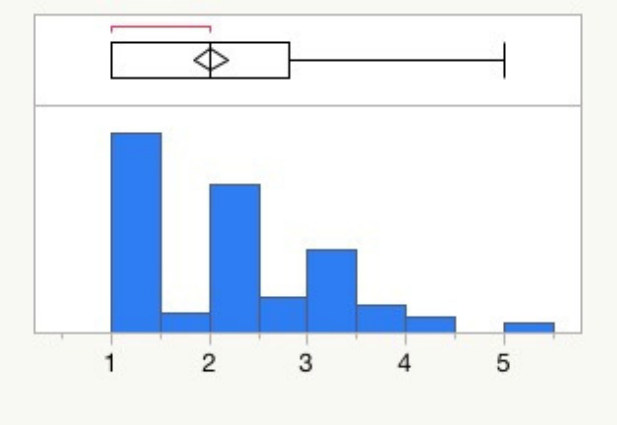


Quantiles		
100.0%	maximum	5
99.5%		5
97.5%		5
90.0%		4
75.0%	quartile	3.75
50.0%	median	3
25.0%	quartile	1
10.0%		1
2.5%		1

0.5%		1
0.0%	minimum	1

Summary Statistics	
Mean	2.6844262
Std Dev	1.278721
Std Err Mean	0.11577
Upper 95% Mean	2.9136234
Lower 95% Mean	2.4552291
N	122
Skewness	-0.012359
Kurtosis	-1.155011

SN Twitter

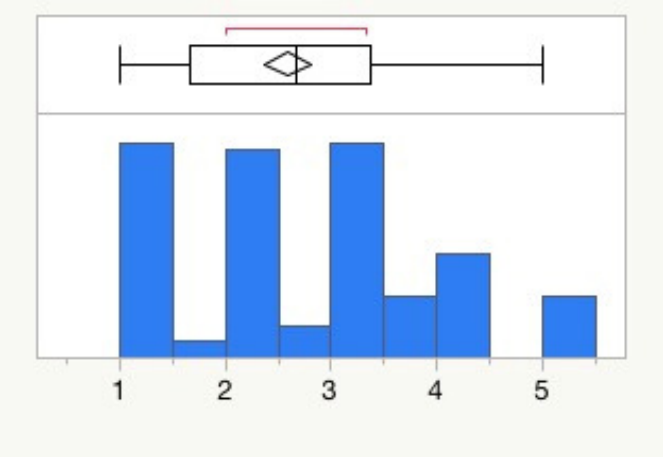


Quantiles		
100.0%	maximum	5
99.5%		5
97.5%		4
90.0%		3.25
75.0%	quartile	2.8125
50.0%	median	2

25.0%	quartile	1
10.0%		1
2.5%		1
0.5%		1
0.0%	minimum	1

Summary Statistics	
Mean	2.0122951
Std Dev	0.9679003
Std Err Mean	0.0876296
Upper 95% Mean	2.1857809
Lower 95% Mean	1.8388092
N	122
Skewness	0.7178967
Kurtosis	-0.012772

BI Twitter

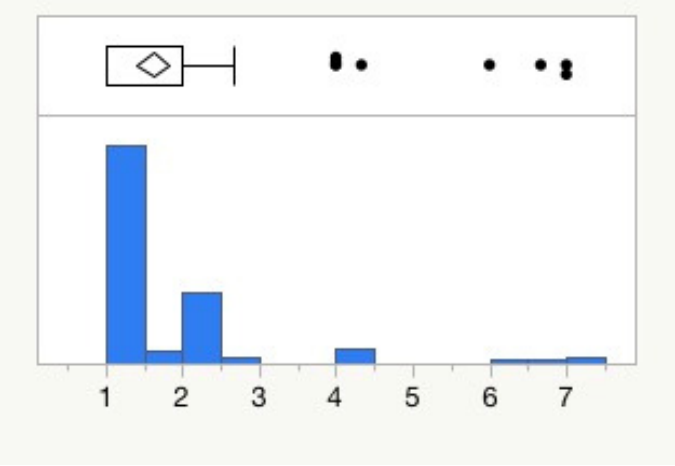


Quantiles		
100.0%	maximum	5
99.5%		5
97.5%		5

90.0%		4
75.0%	quartile	3.375
50.0%	median	2.6666666667
25.0%	quartile	1.6666666667
10.0%		1
2.5%		1
0.5%		1
0.0%	minimum	1

Summary Statistics	
Mean	2.5860656
Std Dev	1.2034221
Std Err Mean	0.1089527
Upper 95% Mean	2.8017662
Lower 95% Mean	2.3703649
N	122
Skewness	0.2155901
Kurtosis	-0.88527

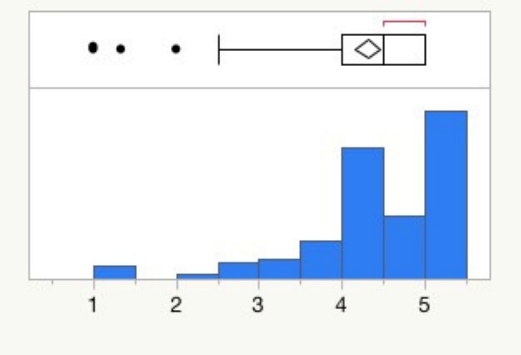
AU Twitter



Quantiles		
100.0%	maximum	7
99.5%		7
97.5%		6.6166666667
90.0%		2.2333333333
75.0%	quartile	2
50.0%	median	1
25.0%	quartile	1
10.0%		1
2.5%		1
0.5%		1
0.0%	minimum	1

Summary Statistics	
Mean	1.6120219
Std Dev	1.1715644
Std Err Mean	0.1060685
Upper 95% Mean	1.8220123
Lower 95% Mean	1.4020314
N	122
Skewness	3.0796448
Kurtosis	10.324368

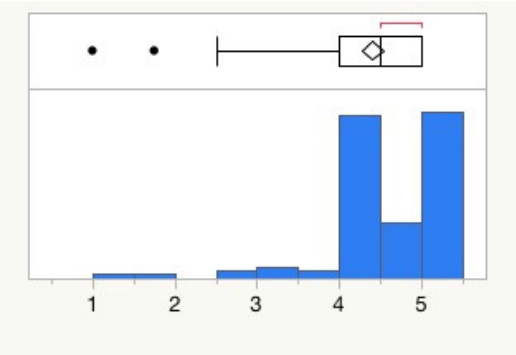
PU Email



Quantiles		
100.0%	maximum	5
99.5%		5
97.5%		5
90.0%		5
75.0%	quartile	5
50.0%	median	4.5
25.0%	quartile	4
10.0%		3.3333333333
2.5%		1.3833333333
0.5%		1
0.0%	minimum	1

Summary Statistics	
Mean	4.3087432
Std Dev	0.8350319
Std Err Mean	0.0756002
Upper 95% Mean	4.4584138
Lower 95% Mean	4.1590726
N	122
Skewness	-1.786534
Kurtosis	4.043162

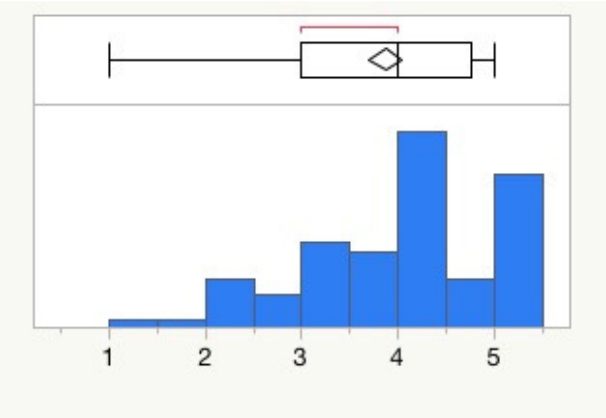
PEU Email



Quantiles		
100.0%	maximum	5
99.5%		5
97.5%		5
90.0%		5
75.0%	quartile	5
50.0%	median	4.5
25.0%	quartile	4
10.0%		4
2.5%		2.5
0.5%		1
0.0%	minimum	1

Summary Statistics	
Mean	4.4036885
Std Dev	0.6926762
Std Err Mean	0.062712
Upper 95% Mean	4.5278434
Lower 95% Mean	4.2795337
N	122
Skewness	-1.848102
Kurtosis	5.5979393

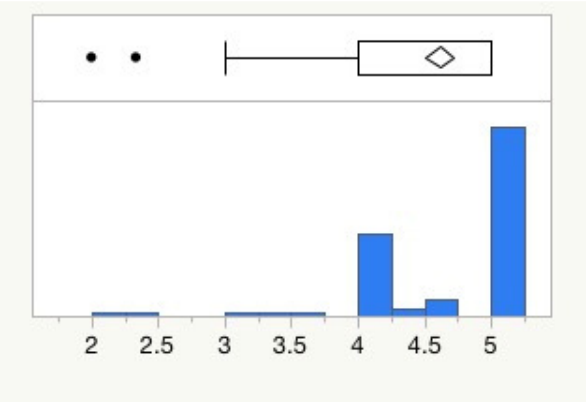
SN Email



Quantiles		
100.0%	maximum	5
99.5%		5
97.5%		5
90.0%		5
75.0%	quartile	4.75
50.0%	median	4
25.0%	quartile	3
10.0%		2.5
2.5%		2
0.5%		1
0.0%	minimum	1

Summary Statistics	
Mean	3.8709016
Std Dev	0.9568336
Std Err Mean	0.0866276
Upper 95% Mean	4.0424039
Lower 95% Mean	3.6993994
N	122
Skewness	-0.648371
Kurtosis	-0.252277

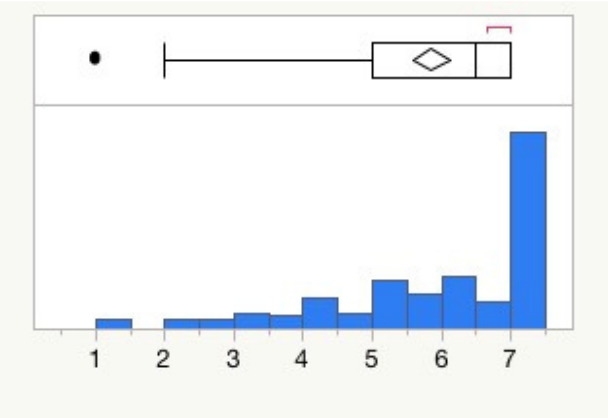
BI Email



Quantiles		
100.0%	maximum	5
99.5%		5
97.5%		5
90.0%		5
75.0%	quartile	5
50.0%	median	5
25.0%	quartile	4
10.0%		4
2.5%		3.025
0.5%		2
0.0%	minimum	2

Summary Statistics	
Mean	4.6147541
Std Dev	0.5829227
Std Err Mean	0.0527753
Upper 95% Mean	4.7192368
Lower 95% Mean	4.5102714
N	122
Skewness	-1.70878
Kurtosis	3.733973

AU Email



Quantiles		
100.0%	maximum	7
99.5%		7
97.5%		7
90.0%		7
75.0%	quartile	7
50.0%	median	6.5
25.0%	quartile	5
10.0%		3.6666666667
2.5%		2
0.5%		1
0.0%	minimum	1

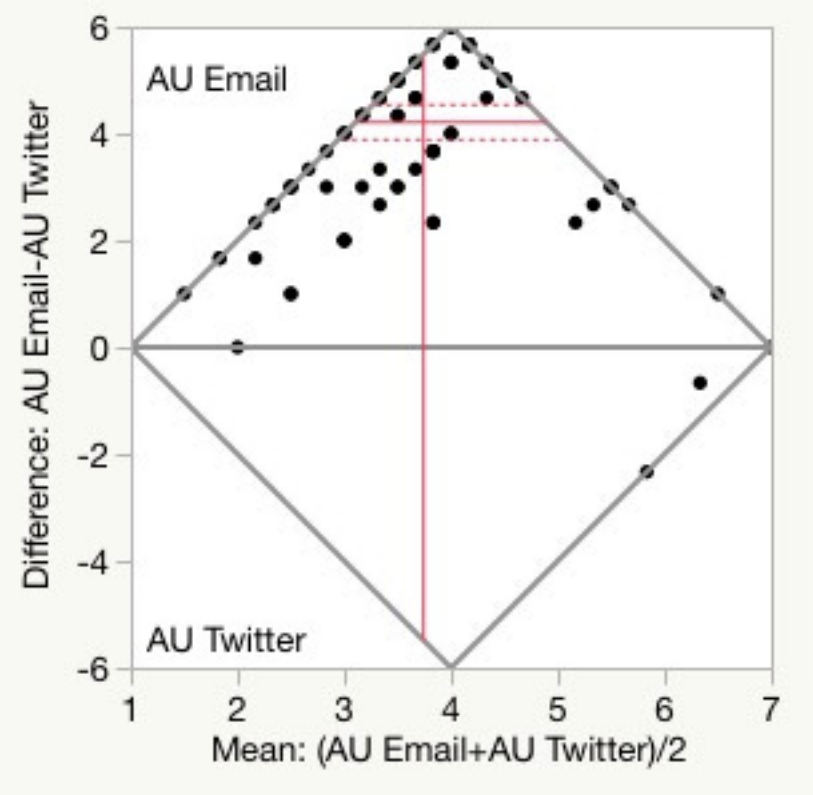
Summary Statistics	
Mean	5.8469945
Std Dev	1.4577915
Std Err Mean	0.1319822
Upper 95% Mean	6.1082882
Lower 95% Mean	5.5857009
N	122
Skewness	-1.334488
Kurtosis	1.2367173

Annexure J: Matched Pairs quantitative data analysis

This annexure contains the full results of the repeated-measures t-test which was not included in the body of this document.

Matched Pairs

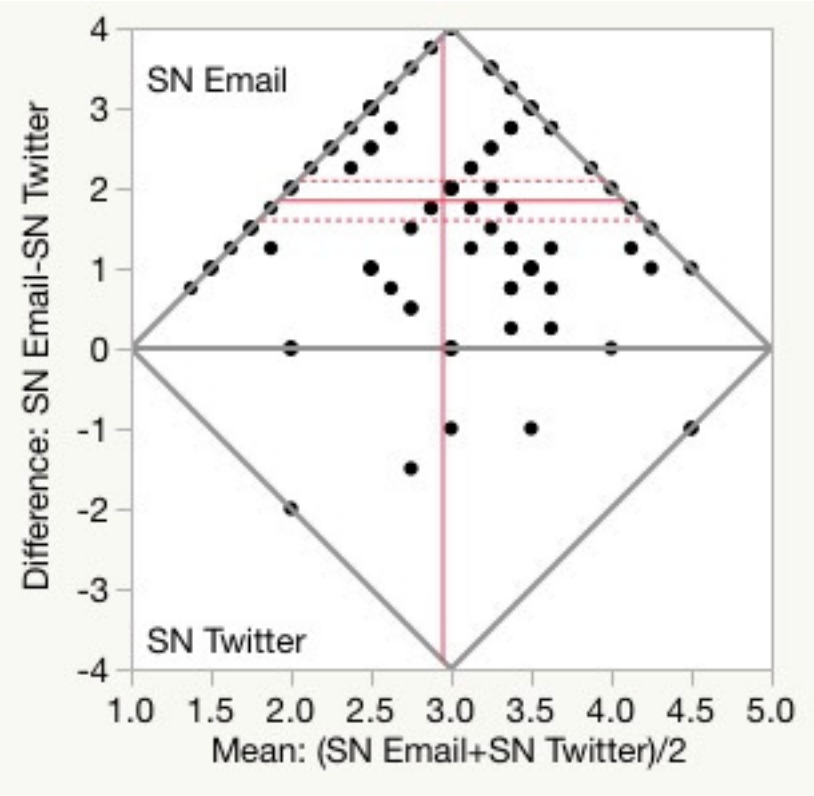
Difference: AU Email-AU Twitter



AU Email	5.84699	t-Ratio	25.76528
AU Twitter	1.61202	DF	121
Mean Difference	4.23497	Prob > |t|	<.0001*
Std Error	0.16437	Prob > t	<.0001*
Upper 95%	4.56038	Prob < t	1.0000
Lower 95%	3.90956		
N	122		
Correlation	0.05905		

Matched Pairs

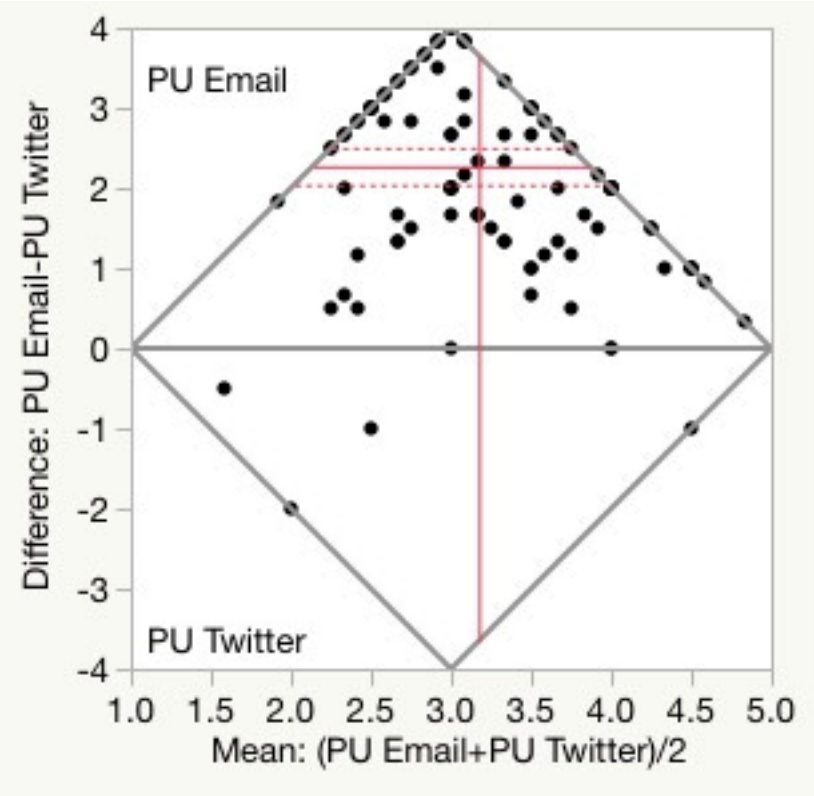
Difference: SN Email-SN Twitter



SN Email	3.8709	t-Ratio	14.97169
SN Twitter	2.0123	DF	121
Mean Difference	1.85861	Prob > |t|	<.0001*
Std Error	0.12414	Prob > t	<.0001*
Upper 95%	2.10438	Prob < t	1.0000
Lower 95%	1.61284		
N	122		
Correlation	-0.015		

Matched Pairs

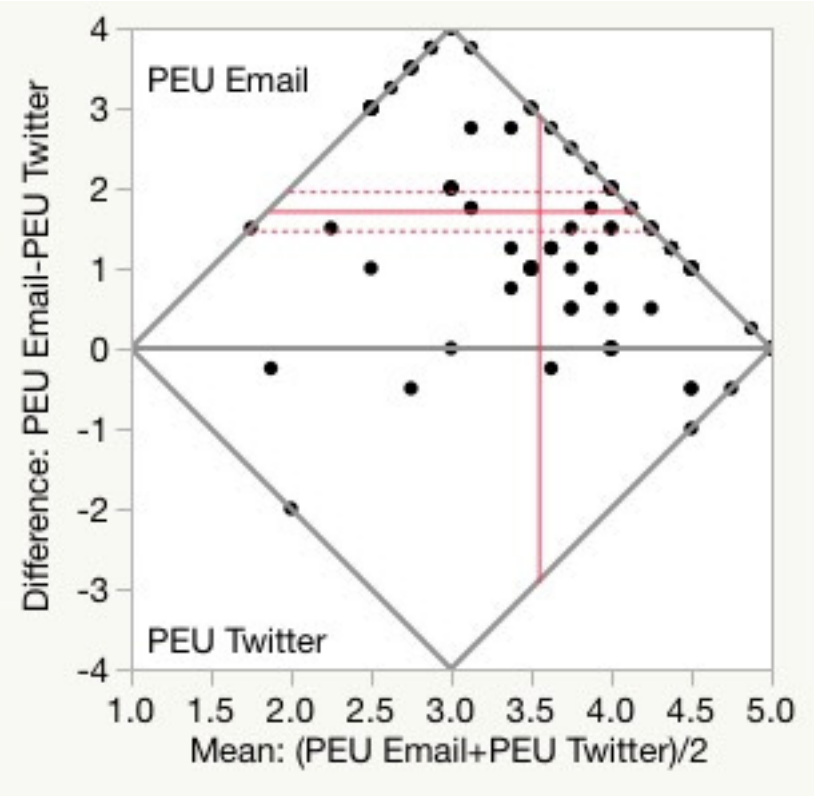
Difference: PU Email-PU Twitter



PU Email	4.30874	t-Ratio	19.55962
PU Twitter	2.03552	DF	121
Mean Difference	2.27322	Prob > |t|	<.0001*
Std Error	0.11622	Prob > t	<.0001*
Upper 95%	2.50331	Prob < t	1.0000
Lower 95%	2.04314		
N	122		
Correlation	0.0502		

Matched Pairs

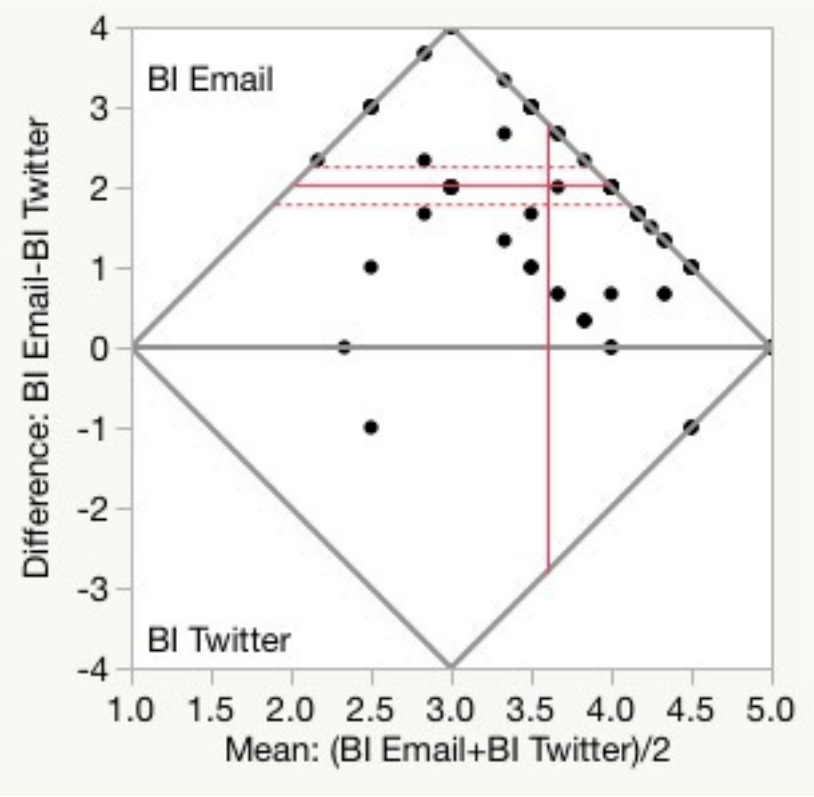
Difference: PEU Email-PEU Twitter



PEU Email	4.40369	t-Ratio	13.97812
PEU Twitter	2.68443	DF	121
Mean Difference	1.71926	Prob > |t|	<.0001*
Std Error	0.123	Prob > t	<.0001*
Upper 95%	1.96277	Prob < t	1.0000
Lower 95%	1.47576		
N	122		
Correlation	0.15201		

Matched Pairs

Difference: BI Email-BI Twitter



BI Email	4.61475	t-Ratio	17.14862
BI Twitter	2.58607	DF	121
Mean Difference	2.02869	Prob > |t|	<.0001*
Std Error	0.1183	Prob > t	<.0001*
Upper 95%	2.2629	Prob < t	1.0000
Lower 95%	1.79448		
N	122		
Correlation	0.05747		

Annexure K: Multivariate Correlations for quantitative data

This annexure contains the the statistical analysis for the non-parametric Spearman's ρ calculations which was not included in the body of this document.

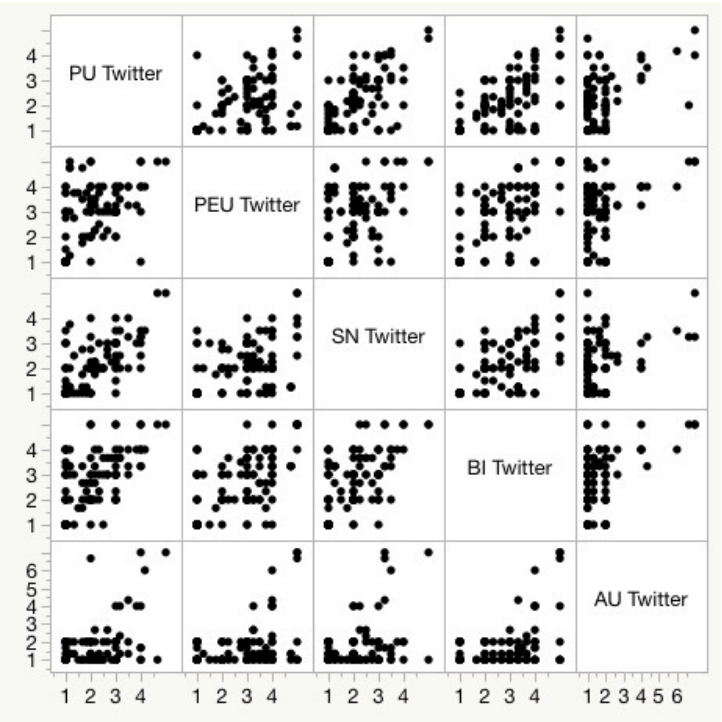
Multivariate Correlations Twitter

	PU Twitter	PEU Twitter	SN Twitter	BI Twitter	AU Twitter
PU Twitter	1.0000	0.5595	0.7070	0.6074	0.4506
PEU Twitter	0.5595	1.0000	0.5207	0.6410	0.3621
SN Twitter	0.7070	0.5207	1.0000	0.6276	0.3632
BI Twitter	0.6074	0.6410	0.6276	1.0000	0.4450
AU Twitter	0.4506	0.3621	0.3632	0.4450	1.0000

Correlation Probability

	PU Twitter	PEU Twitter	SN Twitter	BI Twitter	AU Twitter
PU Twitter	<.0001	<.0001	<.0001	<.0001	<.0001
PEU Twitter	<.0001	<.0001	<.0001	<.0001	<.0001
SN Twitter	<.0001	<.0001	<.0001	<.0001	<.0001
BI Twitter	<.0001	<.0001	<.0001	<.0001	<.0001
AU Twitter	<.0001	<.0001	<.0001	<.0001	<.0001

Scatterplot Matrix



Nonparametric: Spearman's ρ

Variable	by Variable	Spearman ρ	Prob>|ρ|	
PEU Twitter	PU Twitter	0.5897	<.0001*	
SN Twitter	PU Twitter	0.7097	<.0001*	
SN Twitter	PEU Twitter	0.5270	<.0001*	
BI Twitter	PU Twitter	0.5960	<.0001*	
BI Twitter	PEU Twitter	0.6158	<.0001*	
BI Twitter	SN Twitter	0.6193	<.0001*	
AU Twitter	PU Twitter	0.3428	0.0001*	
AU Twitter	PEU Twitter	0.2915	0.0011*	
AU Twitter	SN Twitter	0.2339	0.0095*	
AU Twitter	BI Twitter	0.3479	<.0001*	

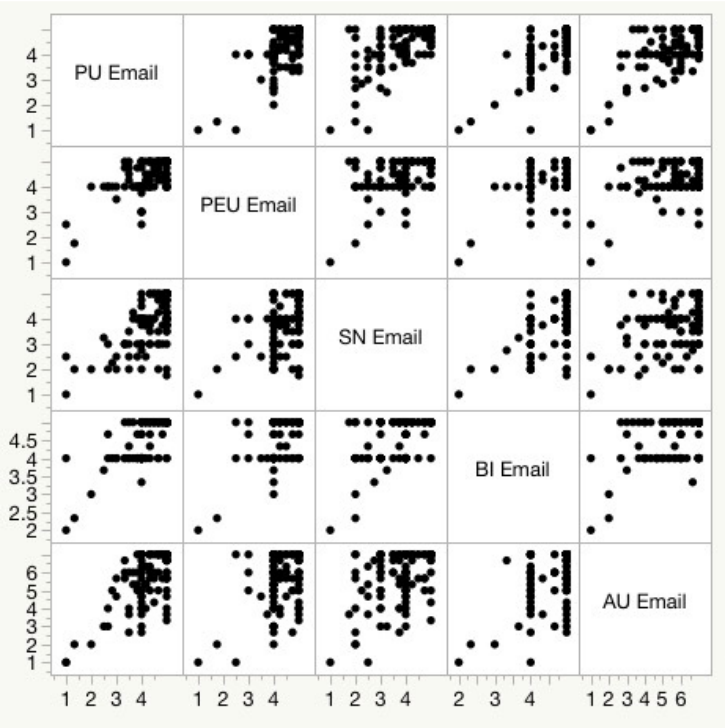
Multivariate Correlations Email

	PU Email	PEU Email	SN Email	BI Email	AU Email
PU Email	1.0000	0.6710	0.6304	0.7416	0.6969
PEU Email	0.6710	1.0000	0.4175	0.6067	0.4723
SN Email	0.6304	0.4175	1.0000	0.5497	0.5046
BI Email	0.7416	0.6067	0.5497	1.0000	0.5298
AU Email	0.6969	0.4723	0.5046	0.5298	1.0000

Correlation Probability

	PU Email	PEU Email	SN Email	BI Email	AU Email
PU Email	<.0001	<.0001	<.0001	<.0001	<.0001
PEU Email	<.0001	<.0001	<.0001	<.0001	<.0001
SN Email	<.0001	<.0001	<.0001	<.0001	<.0001
BI Email	<.0001	<.0001	<.0001	<.0001	<.0001
AU Email	<.0001	<.0001	<.0001	<.0001	<.0001

Scatterplot Matrix



Nonparametric: Spearman's ρ

Variable	by Variable	Spearman ρ	Prob>|ρ|	
PEU Email	PU Email	0.5880	<.0001*	
SN Email	PU Email	0.5662	<.0001*	
SN Email	PEU Email	0.3755	<.0001*	
BI Email	PU Email	0.6928	<.0001*	
BI Email	PEU Email	0.5379	<.0001*	
BI Email	SN Email	0.4828	<.0001*	
AU Email	PU Email	0.5597	<.0001*	
AU Email	PEU Email	0.3924	<.0001*	
AU Email	SN Email	0.4763	<.0001*	
AU Email	BI Email	0.4481	<.0001*	

Annexure L: Questionnaire

Welcome

Background

My name is Wiaan Heyns, and I am conducting this research for my Master of Science in Computing Degree at the University of South Africa (UNISA). It is aimed at gathering input regarding the use of Twitter and Email as communication and knowledge sharing platforms in the business place.

In order to collect representative data, I would like you to ask you questions to understand the current usage case for both Twitter and Email in your business. This should take approximately 20 minutes of your time.

Instructions

This questionnaire is divided into the following three sections:

Section A - Demographic information
Section B - Twitter
Section C - Email

Please be assured that the input you provide will be treated confidentially.

You can view the research proposal as well as complete ethical clearance application on http://knowledge.warble.co.za

Thank you, your co-operation is highly appreciated.

Informed consent

Ethical clearance #: 027/WH/2017/CSET_SOC
COVER LETTER TO AN ONLINE ANONOMOUS WEB-BASED SURVEY

Dear Prospective participant,

You are invited to participate in a survey conducted by Wiaan Heyns under the supervision of Dr. Sheryl Buckley, a Director of ICT Transformation: CMU in the Department of *Computer*Science and Information Systems towards a Master of Science in Computing at the University of South Africa.

The survey you have received has been designed to study the use of Twitter as a platform to share knowledge of employees and management in small South African businesses. You were selected to participate in this survey because you are under the employment of a small businesses in the private sector located in the Western Cape, South Africa as this is the best location for the researcher to conduct the study.You will not be eligible to complete the survey if you are not employed at that time or under the employment of the public sector (i.e. government operations). By completing this survey, you agree that the information you provide may be used for research purposes, including dissemination through peer-reviewed publications and conference proceedings.

It is anticipated that the information we gain from this survey will help us to shed further light on the role microblogs can play in knowledge sharing within businesses. The study will focus on Twitter to determine if it is an applicable knowledge sharing platform. You are, however, under no obligation to complete the survey and you can withdraw from the study prior to submitting the survey. The survey is developed to be anonymous, meaning that we will have no way of connecting the information that you provide to you personally. Consequently, you will not be able to withdraw from the study once you have clicked the send button based on the anonymous nature of the survey. If you choose to participate in this survey it will take up no more than 25 minutes of your time. You will not benefit from your participation as an individual, however, it is envisioned that the findings of this study will give you the necessary insight to use Twitter as free alternative or supportive knowledge sharing platform in your organisation. We do not foresee that you will experience any negative consequences by completing the survey. The researcher(s) undertake to keep any information provided herein confidential, not to let it out of our possession and to report on the findings from the perspective of the participating group and not from the perspective of an individual.

The records will be kept for five years for audit purposes where after it will be permanently destroyed. Electronic versions will be permanently deleted from the hard drive of the computer.You will not be reimbursed or receive any incentives for your participation in the survey.

The research was reviewed and approved by the UNISA School of Computing Ethics Review Committee (ERC).The primary researcher, Wiaan Heyns, can be contacted via email at 48354848@mylife.unisa.ac.za. The study leader, Dr. Sheryl Buckley, can be contacted during office hours at 011 670 9120. Should you have any questions regarding the ethical aspects of the study, you can contact the chairperson of the **UNISA School of Computing Ethics Review Committee (ERC)**, via email on SocEthics@unisa.ac.za. Alternatively, you can report any serious unethical behaviour at the University's Toll Free Hotline 0800 86 96 93.

You are making a decision whether or not to participate by continuing to the next page. You are free to withdraw from the study at any time prior to clicking the send button.

I have read and understood the above and make the following informed decision

- ☐ I consent to participate in the survey
- ☐ I am not interested to participate in this survey

Demographic information

Company information:

* Business sector

* Number of years in existence

* Level of education

- [ ] No formal education
- [ ] Primary school completed
- [ ] Secondary school completed
- [ ] Tertiary education completed
- [ ] Other (Please Specify)

* Gender

- [ ] Male
- [ ] Female
- [ ] Other (Please Specify)

* Is Organisational training, in regard to Email and other online platforms, available

- [ ] Yes
- [ ] No

Twitter

Please rate the following statements in regard to Twitter usage

Perceived Usefulness

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Using Twitter enables me to accomplish my tasks more quickly.	☐	☐	☐	☐	☐
Using Twitter improves my work task performance.	☐	☐	☐	☐	☐
Using Twitter increases my productivity.	☐	☐	☐	☐	☐
Using Twitter makes it easier for me to understand my work tasks.	☐	☐	☐	☐	☐
Using Twitter makes it easier for me to communicate with clients/colleges.	☐	☐	☐	☐	☐
Overall, I find Twitter useful in my work tasks.	☐	☐	☐	☐	☐

Perceived Ease of Use

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Learning to use Twitter is easy for me.	☐	☐	☐	☐	☐
I find it not difficult to get Twitter to do what I want it to do.	☐	☐	☐	☐	☐
I find Twitter to be flexible to interact with.	☐	☐	☐	☐	☐
It is easy for me to become skillful at using Twitter.	☐	☐	☐	☐	☐

Subjective norms

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
People who influence my behaviour think that I should use Twitter.	☐	☐	☐	☐	☐
People who are important to me would think that I should use Twitter.	☐	☐	☐	☐	☐
People whose opinion I value would prefer me to use Twitter rather than other communication tools.	☐	☐	☐	☐	☐
I think that those people who are important to me would want me to use Twitter rather than other communication tools.	☐	☐	☐	☐	☐

* **Behavioural intention**

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Assuming I had access to Twitter, I intend to use it.	☐	☐	☐	☐	☐
Given that I had access to Twitter, I predict that I would use it.	☐	☐	☐	☐	☐
I will use Twitter frequently in the future.	☐	☐	☐	☐	☐

Actual Use

*

	Not at all	Less than once a week	About once a week	2 or 3 times a week	Several times a week	About once a day	Several times a day
How many times do you believe you use Twitter during a week?	☐	☐	☐	☐	☐	☐	☐

*

	Less than 1 hr.	Between 1-5 hrs.	Between 5-10 hrs.	Between 10-15 hrs.	Between 15-20 hrs.	Between 20-25 hrs.	More than 25 hrs.
How many hours do you believe you use Twitter every week?	☐	☐	☐	☐	☐	☐	☐

*

	Extremely infrequent	Quite infrequent	Slightly infrequent	Neither	Slightly frequent	Quite frequent	Extremely frequent
How frequently do you believe you use Twitter?	☐	☐	☐	☐	☐	☐	☐

Email

Please rate the following statements in regard to Email usage

Perceived Usefulness

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Using Email enables me to accomplish my tasks more quickly.	☐	☐	☐	☐	☐
Using Email improves my work task performance.	☐	☐	☐	☐	☐
Using Email increases my productivity.	☐	☐	☐	☐	☐
Using Email makes it easier for me to understand my work tasks.	☐	☐	☐	☐	☐
Using Email makes it easier for me to communicate with clients/colleges.	☐	☐	☐	☐	☐
Overall, I find Email useful in my work tasks.	☐	☐	☐	☐	☐

Perceived Ease of Use

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Learning to use Email is easy for me.	☐	☐	☐	☐	☐
I find it not difficult to get Email to do what I want it to do.	☐	☐	☐	☐	☐
I find Email to be flexible to interact with.	☐	☐	☐	☐	☐
It is easy for me to become skillful at using Email.	☐	☐	☐	☐	☐

Subjective norms

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
People who influence my behaviour think that I should use Email.	☐	☐	☐	☐	☐
People who are important to me would think that I should use Email.	☐	☐	☐	☐	☐
People whose opinion I value would prefer me to use Email rather than other communication tools.	☐	☐	☐	☐	☐
I think that those people who are important to me would want me to use Email rather than other communication tools.	☐	☐	☐	☐	☐

* **Behavioural intention**

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Assuming I had access to Email, I intend to use it.	☐	☐	☐	☐	☐
Given that I had access to Email, I predict that I would use it.	☐	☐	☐	☐	☐
I will use Email frequently in the future.	☐	☐	☐	☐	☐

Actual Use

*

	Not at all	Less than once a week	About once a week	2 or 3 times a week	Several times a week	About once a day	Several times a day
How many times do you believe you use Email during a week?	☐	☐	☐	☐	☐	☐	☐

*

	Less than 1 hr.	Between 1-5 hrs.	Between 5-10 hrs.	Between 10-15 hrs.	Between 15-20 hrs.	Between 20-25 hrs.	More than 25 hrs.
How many hours do you believe you use Email every week?	☐	☐	☐	☐	☐	☐	☐

*

	Extremely infrequent	Quite infrequent	Slightly infrequent	Neither	Slightly frequent	Quite frequent	Extremely frequent
How frequently do you believe you use Email?	☐	☐	☐	☐	☐	☐	☐

Annexure M: Quantitative data reliability test

This annexure contains the reliability tests which was not included in the body of this document.

Twitter: Perceived Usefulness

Case Processing Summary			
		N	%
Cases	Valid	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.974	6

Item-Total Statistics				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
Twitter1	10.14	25.476	.932	.967
Twitter2	10.23	25.980	.960	.964
Twitter3	10.24	25.902	.939	.966
Twitter4	10.25	26.389	.937	.967
Twitter5	10.02	26.322	.842	.976
Twitter6	10.18	26.133	.879	.972

Twitter: Perceived Ease of Use

Case Processing Summary			
		N	**%**
Cases	**Valid**	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.979	4

Item-Total Statistics				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
Twitter7	7.98	14.388	.961	.969
Twitter8	8.19	15.460	.939	.976
Twitter9	8.04	14.883	.940	.975
Twitter10	8.01	14.537	.954	.971

Twitter: Subjective Norms

Case Processing Summary			
		N	**%**
Cases	**Valid**	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.960	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Twitter11	6.06	9.112	.858	.960
Twitter12	6.05	8.626	.888	.951
Twitter13	6.02	8.148	.936	.937
Twitter14	6.02	8.289	.928	.939

Twitter: Behavioural Intention

Case Processing Summary			
		N	%
Cases	Valid	121	99.2
	Excluded[a]	1	.8
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.966	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Twitter15	5.12	5.870	.928	.950
Twitter16	5.09	5.633	.937	.945
Twitter17	5.26	6.229	.922	.956

Twitter: Actual Use

Case Processing Summary		
	N	%

Cases	**Valid**	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.847	3

Item-Total Statistics				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
Twitter18	3.24	5.604	.781	.723
Twitter19	3.58	6.940	.789	.763
Twitter20	2.85	5.185	.650	.889

Email: Perceived Usefulness

Case Processing Summary			
		N	**%**
Cases	**Valid**	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.952	6

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Email1	21.55	17.522	.800	.950
Email2	21.53	17.077	.932	.934
Email3	21.62	16.997	.897	.938
Email4	21.80	16.644	.830	.948
Email5	21.39	18.902	.834	.947
Email6	21.37	18.450	.868	.943

Email: Perceived Ease of Use

Case Processing Summary			
		N	%
Cases	Valid	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.914	4

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Email7	13.11	4.757	.803	.891
Email8	13.29	4.305	.755	.909
Email9	13.30	4.111	.846	.874
Email10	13.16	4.595	.834	.880

Email: Subjective Norms

Case Processing Summary			
		N	%
Cases	Valid	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.932	4

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Email11	11.60	8.738	.824	.916
Email12	11.56	8.199	.867	.902
Email13	11.62	8.154	.884	.896
Email14	11.67	8.619	.785	.928

Email: Behavioural Intention

Case Processing Summary			
		N	%
Cases	Valid	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.954	3

Item-Total Statistics				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
Email15	9.23	1.484	.907	.934
Email16	9.25	1.245	.899	.947
Email17	9.21	1.442	.924	.920

Email: Actual Use

Case Processing Summary			
		N	**%**
Cases	**Valid**	122	100.0
	Excluded[a]	0	.0
	Total	122	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.810	3

Item-Total Statistics				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
Email18	11.17	10.606	.726	.707
Email19	12.69	6.233	.658	.884

Email20	11.22	11.083	.787	.691

Annexure N: English Language Editing

This is to confirm that I have edited the above dissertation as an academic English Language editor using standard British English and the Harvard 6 Referencing style.

Signed

Kathleen M. Wood